

BOSNIA COUNTRY HANDBOOK



Peace Stabilization Force
(SFOR)

DOD-2630-BK-002-97
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Purpose of this Handbook

This handbook has been designed as a ready reference to provide U.S. military forces with unclassified information necessary for effective operations in Bosnia. This document also has been authorized for release to the military forces of other nations participating in the Peace Stabilization Force (SFOR). This document supersedes DOD-1540-17-96, dated May 1996.

This handbook has been produced as a joint effort of many organizations within the U.S. Department of Defense: the Defense Intelligence Agency, the Marine Corps Intelligence Activity, the National Ground Intelligence Center, the National Air Intelligence Center, the Joint Analysis Center of the United States European Command, the 480th Air Intelligence Group, Armed Forces Medical Intelligence Center, and the Missile and Space Intelligence Center.

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SECTION I

THE GENERAL FRAMEWORK AGREEMENT ON PEACE IN BOSNIA AND HERZEGOVINA

(THE DAYTON PEACE AGREEMENT)



THE GENERAL FRAMEWORK AGREEMENT ON PEACE IN BOSNIA AND HERZEGOVINA

Summary of Main Points

- Bosnia and Herzegovina will remain a single state within its current borders. It will be a unified state composed of two political entities: a Muslim-Croat federation and a Bosnian-Serb republic—Republika Srpska. Under the agreement, both sides will have to give up territory.
- Bosnia and Herzegovina will have a central government located in Sarajevo.
- The Former Warring Factions (FWF) will cease all hostilities and withdraw behind a 2-km zone of separation (ZOS).
- Within territory that is being transferred from one party to another, the withdrawing party has 45 days to withdraw all troops, weapons, mines, and obstacles.
- Within 120 days, the parties pledge to withdraw all heavy weapons and forces to locations identified by the SFOR commander. Excess personnel are to be demobilized and prohibited from participating in any further military training.
- Free and democratic elections will be held throughout Bosnia and Herzegovina. People displaced by war will have the right to vote in their original place of residence if they so choose.
- The parties have agreed to a constitution for Bosnia and Herzegovina that creates a presidency, a bicameral legislature, and a constitutional court.
- All of Bosnia's people have the right to move freely throughout the country without harassment or discrimination. Refugees and displaced persons will have the right to return home or obtain compensation.
- The agreement commits Serbia, Croatia, and Bosnia and Herzegovina to cooperate fully with the prosecution of war criminals and violations of international and humanitarian law.
- All non-local forces and equipment are to be withdrawn from Bosnia and Herzegovina.

SFOR COUNTRY PARTICIPATION LISTING



ALBANIA

Location: MCSE*



AUSTRIA

Location: MCSE



BELGIUM

Location: MCSE



BULGARIA

Location: MCSE



CANADA

Location: UK Sector



CZECH REPUBLIC

Location: UK Sector

* Multinational Combat Support Elements

Participating Countries (Cont.)



Location: U.S. Sector



DENMARK



Location: French Sector

EGYPT



Location: U.S. Sector

ESTONIA



Location: U.S. Sector

FINLAND



Location: French Sector

FRANCE

Participating Countries (Cont.)



GERMANY

Location: MCSE



GREECE

Location: MCSE



HUNGARY

Location: MCSE



ICELAND

Location: U.S. Sector



ITALY

Location: French Sector

Participating Countries (Cont.)



JORDAN

Location: French Sector



LATVIA

Location: U.S. Sector



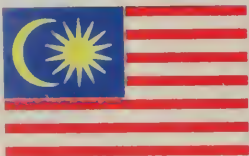
LITHUANIA

Location: U.S. Sector



LUXEMBOURG

Location: MCSE



MALAYSIA

Location: UK Sector

Participating Countries (Cont.)



MOROCCO

Location: French Sector



NETHERLANDS

Location: UK Sector



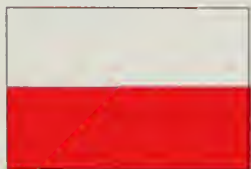
NEW ZEALAND

Location: UK Sector



NORWAY

Location: U.S. Sector



POLAND

Location: U.S. Sector

Participating Countries (Cont.)



PORTUGAL

Location: French Sector



ROMANIA

Location: MCSE



RUSSIA

Location: U.S. Sector



SAUDI ARABIA

Location: UK Sector



SLOVENIA

Location: MCSE



SPAIN

Location: French Sector

Participating Countries (Cont.)



SWEDEN

Location: U.S. Sector



TURKEY

Location: U.S. Sector



UKRAINE

Location: French Sector



UNITED KINGDOM

Location: UK Sector



UNITED STATES

Location: U.S. Sector

SECTION 2 REGIONS OF INTEREST

EASTERN SLAVONIA

Eastern Slavonia is an 850 square mile piece of land that lies on Croatia's eastern border with Serbia. The area has considerable light industry, rich agricultural land, and is the largest oil producing region in the former Yugoslavia (it produced up to 5,200 barrels of oil a day during the 1980s). Before the outbreak of hostilities in 1991, the region contained about 150,000 ethnic Croats, Hungarians, Muslims, and 68,000 Serbs.

In 1991, Eastern Slavonia was the site of heavy Croat-Serb fighting. Serb paramilitaries, backed by the Serb-dominated Yugoslav Army (JNA), fought hastily-assembled Croatian forces for control of the area. The capital of Eastern Slavonia, Vukovar, was shelled by the Yugoslav Army during a four month siege and reduced to rubble. Croatian Serb forces eventually took control of Eastern Slavonia and thousands of Croats fled the region to refugee camps inside Croatia or abroad. The international war crimes tribunal in the Hague has issued indictments against, so far, three JNA officers who are accused of killing more than 200 Croatian prisoners outside of Vukovar.

During 1995, Croatian forces went on the offensive and recaptured all Serb-held territory except for Eastern Slavonia. The 12 November 1995 Basic Agreement on the Region of Eastern Slavonia, Baranja, and Western Sirmium (also called the Erdut Agreement after the town in which it was signed) provides for the peaceful integration of that region into Croatia. The Agreement requested the Security Council to establish a transitional administration to govern the region; to authorize an inter-

national force to maintain peace and security during that period; and to otherwise assist in the implementation of the Agreement. Thus, the UN Transitional Administration for Eastern Slavonia, Baranja, and Western Sirmium (UNTAES) was created.

UNTAES was set up on 15 January 1996 (UN Security Council Resolution 1037) for an initial period of 12 months, with both military and civilian components. The military component was required to:

- supervise and facilitate the demilitarization of the region (accomplished);
- monitor the voluntary and safe return of refugees and displaced persons to their homes of origin in cooperation with UNHCR (ongoing);
- contribute, by its presence, to the maintenance of peace and security in the region (ongoing);
- and otherwise assist in implementation of the Basic Agreement (ongoing).

The civilian component was required to:

- establish a temporary police force, define its structure and size, develop a training program and oversee its implementation, and monitor treatment of offenders and the prison system (ongoing);
- undertake tasks relating to civil administration and to the functioning of public services (ongoing);
- and facilitate the return of refugees, organize elections, assist in their conduct, and certify the results (ongoing - municipal elections are scheduled for 16 March 1997).

The civilian component has also been requested to undertake other activities relevant to the Basic Agreement, including:

- assisting in the coordination of plans for the development and economic reconstruction of the region (ongoing - A Donor's Meeting held in Zagreb on 6 December 1996 received \$37 million dollars in pledges for humanitarian work and reconstruction);

- monitoring of the parties' compliance with their commitments to respect the highest standards of human rights and fundamental freedoms (ongoing);
- promoting an atmosphere of confidence among all local residents irrespective of their ethnic origin (ongoing - primarily aimed at Serbs);
- monitoring and facilitating the demining of territory within the region (ongoing);
- and maintaining an active public affairs element (accomplished).

UNTAES is also to cooperate with the International Criminal Tribunal for the former Yugoslavia in performing its mandate.

By unanimously adopting Resolution 1079 on 15 November 1996, the Security Council extended UNTAES' mandate for six months, through 15 July 1997. An unspecified monitoring regime is supposed to replace UNTAES for the remaining six months specified by the Agreement. At the end of this period, Eastern Slavonia will have totally reverted to Croatian control.

UNTAES Basic Data

Location: Eastern Slavonia, Baranja, and Western Sirmium (also known as Western Srem).

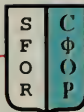
Headquarters: Vukovar.

Transitional Administrator: Jacques Klein.

Strength (30 November 1996): Total of 5,405 personnel comprised of 4,850 troops and supported by 98 military observers and 457 civilian police

Current Personnel Contributors (30 November 1996): Argentina, Austria, Bangladesh, Belgium, Brazil, Czech Republic, Denmark, Egypt, Fiji, Finland, Ghana, Indonesia, Ireland, Jordan, Kenya, Lithuania, Nepal, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Poland, Russian Federation, Slovak Republic, Sweden, Switzerland, Tunisia, Ukraine, United Kingdom, and the United States.

EASTERN SLAVONIA



PREVLAKA PENINSULA

The dispute over the Prevlaka Peninsula, a small strip of land which lies at the intersection of the common borders of the Former Yugoslavian Republics of Montenegro and Croatia, arose out of the civil war and subsequent break up of the Republics in 1991. The area falls within claimed Croatian territory, yet overlooks the main Federal Republic of Yugoslavian (FRY) Naval Base at Tivat in Montenegro.

Since October 1992, the resolution to the problem has been found in the positioning of the United Nation's Military Observer mission in Prevlaka (UNMOP). This small force has maintained a presence on the peninsula, acting as a buffer to ensure that neither the FRY or Croatia establishes a military presence. The charter for the UNMO was established in the 1992 Vance Agreement, to which both Croatia and the FRY are signatories.

The mandate for the UNMOP has been repeatedly extended since 1992. Most recently the mandate was extended from January through July 1997.



Prevlaka Peninsula.

SECTION 3

CLIMATE, TERRAIN, TRANSPORTATION, AND TELECOMMUNICATIONS

CLIMATE

The former Yugoslavia is located in the mid-latitudes and is influenced by some of the same types of climatic conditions that exist in the northern continental United States. The mountainous terrain over most of the country creates a lot of climatic diversity. Since this diversity is much like that over many parts of the United States, major acclimatization should not be a problem.

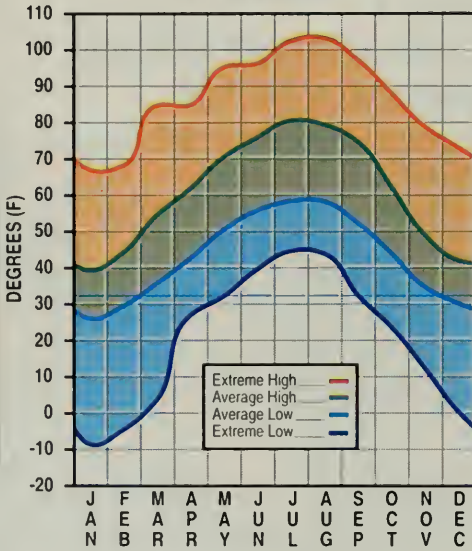
The mean daily summertime temperatures in Yugoslavia at lower elevations range from 70° F to the low 90s, with much cooler temperatures in the mountains. The mean daily wintertime temperatures at low elevations range from the mid-teens to the low 50s, with colder temperatures in the Interior Highlands and warmer temperatures on the Adriatic coast. Spring and fall temperatures are intermediate between the winter and summer extremes.

Mean annual precipitation varies greatly in the country. Precipitation ranges from a low of 500 millimeters in the southeastern mountain valleys to over 4,500 millimeters on south slopes facing the southern Adriatic Sea. Mean relative humidity is moderate to high in the Eastern Adriatic, with annual averages of 80 to 95 percent in the mornings and 60 to 70 percent in the afternoons at interior locations. The drying effect of downslope winds causes annual averages of 60 to 80 percent in the early mornings and 50 to 70 percent in the afternoons at coastal locations. Relative humidity is usually highest in autumn and winter and lowest in summer.

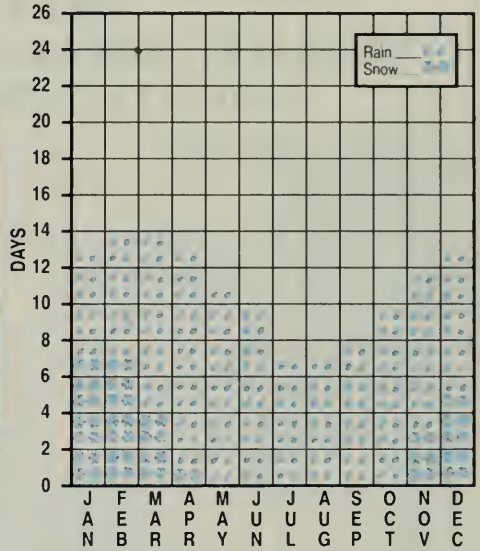
Surface winds are normally light and variable in the country. Gale force winds (28 knots or greater) have been known to occur along the coast and in the highest mountain ranges, especially during winter.

BANJA LUKA

TEMPERATURE

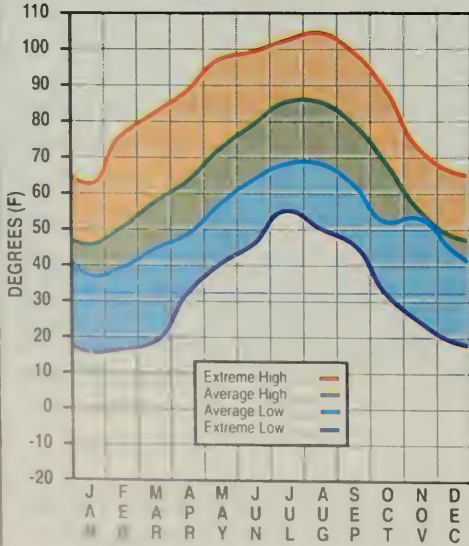


PRECIPITATION

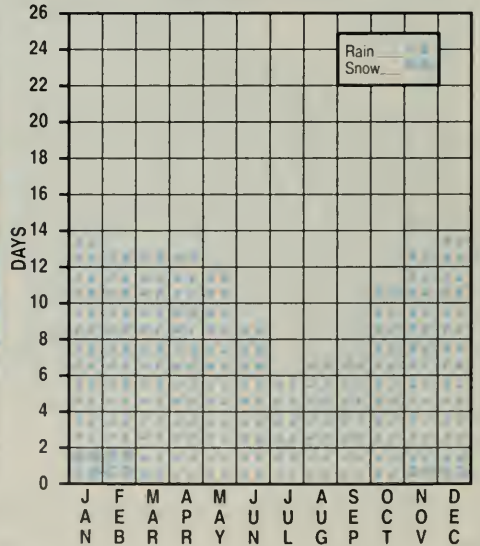


MOSTAR

TEMPERATURE

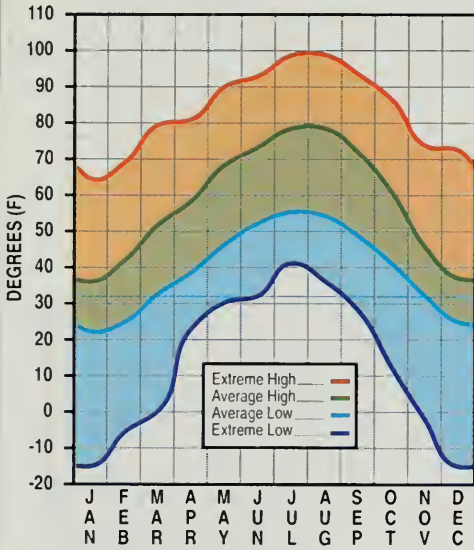


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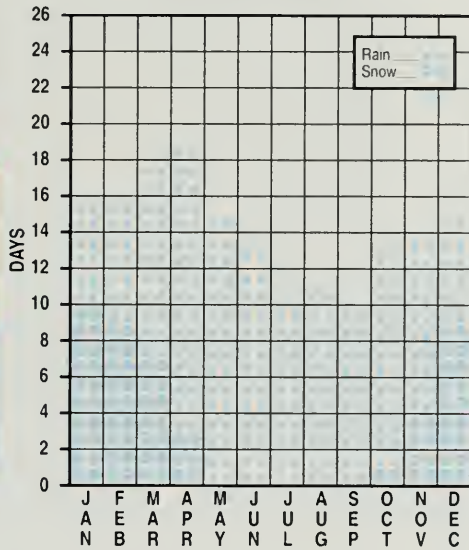


SARAJEVO

TEMPERATURE

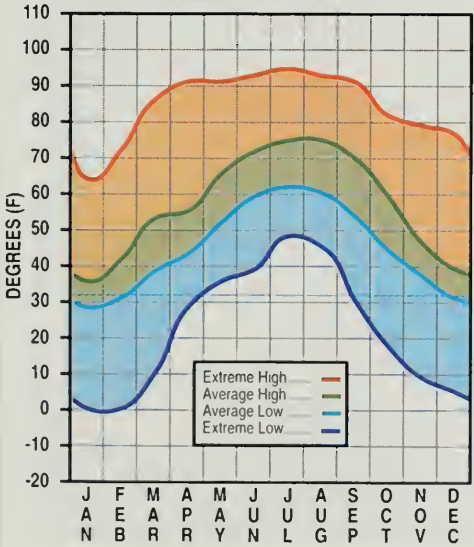


PRECIPITATION

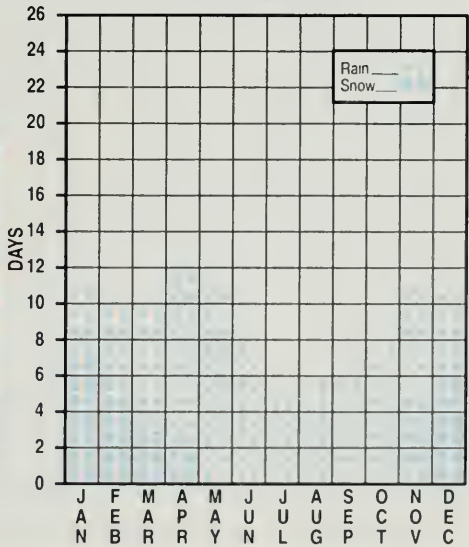


TUZLA

TEMPERATURE



PRECIPITATION



TERRAIN

Landforms

The former Yugoslavia is predominantly mountainous and hilly country. Mountains and hills make up 70 to 80 percent of the land area in the country. Elevations range from almost 2,900 meters above sea level at the highest peak in the northwest to sea level on the Adriatic coast. The former Yugoslavia can be divided into the following three landform divisions: the Northern Plains, the Interior Highlands, and the Adriatic Coastal Region (see Landforms Figure).



Landforms.



Land Use.

The Northern Plains total about 20 percent of the land area in Yugoslavia. This landform comprises the river valleys of the middle and lower Drava, the middle and lower Sava, the lower Tisa, and the middle Danube. It is bordered in the south and west by the Interior highlands and continues north into Hungary and Romania. The area extends about 530 kilometers northwest to southeast and 210 kilometers north to south.

The Interior Highlands total about 70 percent of the country. This hilly and mountainous landform division extends about 970 kilometers northwest to southeast and about 550 kilometers east to west. Almost the entire republic of Bosnia and Herzegovina is within the Interior Highlands. This landform includes rugged mountains, barren highly dissected karst regions, low rounded mountains and hills, and numerous basins and small valleys.

Vegetation

The great variances of elevation and climate in the country, especially in the Interior Highlands, has produced a wide variety of forest types. The vegetation of Yugoslavia has been greatly altered over time. Forests have been removed to sustain agricultural crops and pastures. Poor forestry practices have degraded many of the remaining forests.

The main forests in the former Yugoslavia are in the mountains and hills of the Interior Highlands. The forests of Slovenia, Croatia, and Bosnia and Herzegovina have the highest quality timber in the country. The forests of southern Serbia, Macedonia, and Montenegro have been degraded more than other forests in the country. Because of this, the dominant vegetation consists of dwarf trees and scrub. Almost the entire Northern Plains is under cultivation. Major crops are wheat and corn. Lesser crops are barley, oats, rye, sunflowers, soybeans, and hay. The Northern Plains are mostly devoid of trees. Vegetation in the Adriatic Coastal Region is influenced by the Mediterranean climate (see Land Use Figure).

Impact on Military Operations

The mountains, steep hills, and rough karst topography that cover 70 to 80 percent of the country have a profound impact on military activities. Cross-country movement of wheeled and tracked vehicles is almost impossible in these areas. In the Northern Plains and in the valleys and adjacent dissected hills in the east, movement is feasible all or most of the year. Vehicular movement, in general, would be easier in summer and autumn than it would be in winter and early spring when the ground is soft and wet.

TRANSPORTATION

The terrain of the former Yugoslavia with its mountainous, dominating high peaks makes lines of communication in country difficult. The major transportation routes are by road, rail, and inland waterway. Since the 1980s, and up until the current conflict began, Yugoslavia was in the process of updating its transportation systems. As a result, these systems underwent vast improvements. The country has about six major highway routes, major rail routes, eight major ports, a vast system of inland waterways and inland ports, and eight major airfields.

Highways

Most of the roads in the former Yugoslavia's highway system are asphalt surfaced, have numerous bridges, and traverse rough terrain. City streets, as well as more remote area roads, typically have uneven or broken surfaces of cobblestones, tar, or gravel. Current conditions of these roads are unknown. By 1989 the highway system totalled 123,000 km of roads. Included are the 871-km major highway (Route 1), 73,527 km of asphalt-surfaced roads, 33,663 km of macadam-surfaced roads, and 15,133 km of earthen roads. Most areas of the country are accessible via modern asphalted roads.

The former Yugoslavia has six major routes. Route 1, which is partially completed, extends in a southeast-northwest direction across the interior from Albania to Austria. When completed, this highway will be the largest expressway route in the country. Route 2 follows the coast from the town of Skopje to the border with Italy. The remaining four major highways are north-to-south routes. Many alternative routes are available via secondary roads (see Transportation Figure).

All the primary routes have numerous bridges that cross small to large streams. In some of the mountainous areas, bridges are easily washed out. These significant obstacles are difficult to impossible to bypass because of the rough terrain. Furthermore, hazardous conditions such as falling rocks, blind curves, frequent blinding rains, blinding snowstorms, and an occasional violent crosswind (known as the Bora) can also affect highway travel throughout the country.

BOSNIA AND HERZEGOVINA

- | | | | |
|-------------------|-----------|---------------------------------|-----------|
| Republic boundary | ————— | Expressway | ————— |
| Province boundary | - - - - - | All-weather road | ————— |
| Republic capital | ⊙ | All/Fair-weather road | ————— |
| Railway | ————— | Fair-weather road | ————— |
| Major airports | ✈ | Under construction or projected | - - - - - |
| Major ports | ⚓ | | |

- Plains** - Nearly flat to gently rolling. Local relief is generally < 150 m. Most slopes are < 2%, with the remainder generally between 2 to 10%.
- Hills** - Mostly rough. Local relief is generally between 150 and 600 m. Most slopes are generally between 10 to 30%.
- Mountains** - Mostly rough to rugged. Local relief is generally > 600 m. Most slopes exceed 30% and many exceed 45%.
- Possible Flood Area** - Seasonally wet low-lying areas that are prone to flooding.

Boundary representations are not necessarily authoritative.
 Serbia and Montenegro have asserted the formation of a joint independent state, but this entry has not been formally recognized as a state by the United States.



Transportation.

Railroads

The railroad system is not as well developed as the highway system. The northwestern part of the country has fairly good rail connections to Italy and Austria. In fact, this area of the country has the only reliable part of the system because of ongoing repair work and improvements. Elsewhere, travel on the system is slow with many stops. The lines cross many bridges, most of which cannot be bypassed in the event of wash-outs or interdiction. In recent years, however, many of the lines have been modernized. Nationwide, the system totals over 9,400 km of track. Most of the system has 1.435-meter, standard-gauge track, and about one-third of the system is electrified.

Inland Waterways

About 2,600 km of navigable inland waterways exist in the country. These include rivers, canals, and lakes. The former Yugoslavia depended greatly on the Danube and its tributaries—the Drava, the Tisza, and the Sava—for commercial and military traffic. The Danube also provides transportation and resupply links from the north with Germany, Austria, Czechoslovakia, and Hungary. This river is navigable from the Black Sea to Germany, a part of which includes its entire 588-km course through Yugoslavia. As it enters Yugoslavia from the east, it passes through a two-tandem lock, a dam, and a hydroelectric complex.

The Sava is the longest navigable waterway within the country. It meanders for 593 km from the border to the town of Zagreb. A large system of canals connects to most of the major rivers, especially in the eastern section of the Northern Plains. In 1987, Yugoslavia had 1,194 river craft. In 1989 cargo shipments on the inland waterway system totalled 19,270,000 metric tons; the system also accommodated 29,000 passengers.

Ports

The regions of the former Yugoslavia have eight major seaports and several inland waterway ports. From the northern tip of the Adriatic Sea southward, the seaports are as follows: Koper, Rijeka, Zadar, Sibenik, Split, Ploce, Dubrovnik, and Bar. The inland waterway ports, which

accommodate traffic three quarters of the way across the country, are as follows: Belgrade, Novi Said, Osijek, Sisak, Slavonski Brod, and Vukovar. Belgrade is the most important inland waterway port.

Airfields

About 23 airfields are located in or near major cities. The following eight are considered the most important: Banja Luka, Batajnica, Belograd, Dubrovnik, Sarajevo, Split, Tuzla, and Zagreb. All eight of these airfields have runways over 2,400 meters long and are all C-130 capable.

TELECOMMUNICATIONS

The telecommunications system in Bosnia was severely damaged during the war, especially along the Inter-Entity Boundary Line (IEBL). While progress in reconstruction has been made since the signing of the General Framework Agreement for Peace (Dayton Peace Agreement), the telecommunications system is rudimentary compared to its pre-war status. Reconstruction of the Bosnian telecommunications system is a priority in the overall reconstruction effort. Estimates of reconstruction costs exceed \$80 million.

Currently, only 260,000 telephone connections and 400 international lines, many in poor condition, are working in Bosnia. This compares to about 375,000 and 4,000, respectively, before the war. Destroyed facilities include transmission and switching equipment, buildings, microwave towers, and overhead cables; many underground cables have also been damaged. Daytime call completion rates from abroad have dropped from 35-38 percent to 1-2 percent. Human resources are very scarce, since many staff have left or become refugees. Most equipment documentation is destroyed.

SECTION 4

CULTURE AND HISTORY

Note: This section is intended to present as impartial an assessment as possible of the circumstances underlying the conflict within the territorial limits of the former Socialist Federal Republic of Yugoslavia.

KEY JUDGMENTS

In the Balkans, past history is closely linked with perceptions of the present and future.

Religious and cultural animosities have developed over centuries and are deeply ingrained among the various warring factions.

Violence has been, and will likely continue to be, prevalent.

HISTORICAL AND POLITICAL BACKGROUND

Although most of the peoples of the former Yugoslavia come from a common Slavic ancestry, they have been divided by history and geography into distinctive ethnic groups. The Slovenes, Croats, Serbs, Bosniacs, Montenegrins, and Macedonians all have their separate histories, languages, legends, and aspirations; the centuries are marked by conquest and subjugation as much as by mutual cooperation.

The Slavic peoples began to settle the Balkan region between the Eastern and Western Roman Empires in the fifth and sixth centuries A.D. They formed a series of independent kingdoms which, at times, rivalled the brilliance of Rome and Byzantium. The Slovenes of the northwest struggled to define and defend their cultural identity for a millennium, first under the Frankish Kingdom and later as part of Austria. The Croats, settling a broad crescent of land from Dalmatia along the Adriatic through Croatia and Slavonia, established their own kingdom

under Tomislav in 924 but soon fell under the domination of other rulers—Byzantine, Hungarian, Venetian, French, and Austrian. The Serb Empire reached its greatest glory under Stefan Dusan in the fourteenth century; the victory of the Turks in the Battle of Kosovo Polje on June 28, 1389, laid the groundwork for the eventual rule of the Ottoman Empire over the region. The Montenegrins savagely defended their mountain homeland against all foreign aggressors. The Bosniaes converted to Islam in great numbers while under Turkish rule. Macedonia became the mixing pot of the Balkans, contested among the Serbs, Bulgars, Greeks, and Albanians. Time has also shifted populations, bringing Serbs into the Krajina regions of Croatia, and Albanians into the majority in the Kosovo region of Serbia.

The Balkan wars of the early 20th century and World War I had dramatic consequences for what was later to become Yugoslavia. In the Balkan wars, Serbia helped expel the Turks from Europe and regain lands lost in medieval times. By 1914, the alliances of Europe (as well as ethnic frictions among the people of the region) helped to ignite World War I through the assassination by a Serbian nationalist of Archduke Franz Ferdinand in Sarajevo. Serbia became one of the main battlegrounds of World War I. The collapse and dissolution of the Austro-Hungarian Empire in 1918 left a power vacuum which Italy rushed to fill; to forestall Italian seizure of Dalmatia, the Kingdom of the Serbs, Croats, and Slovenes was proclaimed on December 1, 1918, and recognized by the Paris Peace Conference in May 1919. Prince Regent Aleksandar Karadjordjevi of Serbia became king, assumed dictatorial powers from 1929 through 1931, and changed the name of the country to the Kingdom of Yugoslavia—the land of the South Slavs.

Although the creation of a unitary Yugoslav state fulfilled the dreams of many South Slav intellectuals, it disregarded fundamental differences among the 12 million inhabitants of the new country. Many considered the new government and its laws as alien and secondary to kinship loyalties and traditions. Ethnic hatred, religious rivalry, language barriers, and cultural conflicts have plagued Yugoslavia from its inception.

In 1941, Nazi Germany overran Yugoslavia. The country was partitioned among Germany and other Axis countries—Italy, Hungary, and Bulgaria all ruled zones of occupation or annexed territories. In addition, a fascist puppet, the Independent State of Croatia, was created of Croatia and Bosnia and Herzegovina and ruled by the Ustase. A bitter civil war was fought among the Axis occupying forces, the Ustase, Bosnian supporters of the Axis, Josip Broz Tito's communist partisans, and the Serbian monarchist Cetniks of Colonel Mihalovic. Each faction fought for its own agenda. Largely centered in Bosnia and Herzegovina, the conflict cost the Yugoslavs approximately 1.8 million lives, or 10.9 percent of the population. Most of the deaths are attributed to the civil war, not the occupation.

The communists emerged from the war as the sole rulers of Yugoslavia, with Tito as head of the provisional government. The Socialist Federal Republic of Yugoslavia was established on November 29, 1945, and Tito set about creating a country where nationalism would be eliminated in favor of socialist unity among the Yugoslav peoples. The regime created six federal republics, loosely based upon geography and historical precedent: Serbia (including two autonomous provinces, Vojvodina and Kosovo), Croatia, Slovenia, Bosnia and Herzegovina, Montenegro, and Macedonia. These were administrative divisions, and did not reflect the boundaries of Yugoslavia's diverse ethnic groups.

With Tito's death in 1980, it became increasingly difficult to keep the country united. Resentment of centralized Federal control fed growing nationalism and demands for greater autonomy. By the late 1980s, deteriorating economic conditions and demands for political reform increased tensions among ethnic groups. Serb nationalism, fanned by Slobodan Milosevic, was mirrored by nationalist movements in the other federal republics. Fears of Serb domination accelerated calls for independence among the republics.

In June 1991, Slovenia declared its independence. This action proved successful because Slovene authorities were well prepared to defend their country and had no significant ethnic minorities to complicate the situation. The Yugoslav Peoples' Army (JNA), after losing a series of sharp skirmishes, elected not to become heavily involved in a

conflict with Slovenia and a withdrawal of forces was negotiated. Slovenia has not been involved in any of the subsequent conflicts.

Croatia also declared independence in June 1991, but was not as well prepared militarily and had a significant ethnic Serb population within its borders. A protracted conflict resulted, during which Croatian Serbs seized control of about 30 percent of Croatia's territory and proclaimed the Republic of Serb Krajina. After the Yugoslav Army agreed to withdraw from Croatia at the end of 1991, the establishment of four UN Protected Areas (Sectors North, South, East and West) and deployment of the UN Protection Force in March, 1992 (UNPROFOR I, subsequently the United Nations Confidence Restoration Operation in Croatia (UNCRO)) helped stabilize the situation, but left the conflict unresolved. Croatia reestablished its rule over sectors North, South, and West through military action in 1995, and has negotiated for the return of Sector East.

Bosnia and Herzegovina voted to secede from the Socialist Federal Republic of Yugoslavia in April 1992, in a referendum boycotted by the Bosnian Serbs. Comprising approximately 33 percent of the pre-conflict population of Bosnia, the Serbs proclaimed their own "Republika Srpska" (Serb Republic of Bosnia and Herzegovina), enlisted the vast majority of the ex-JNA in Bosnia into the Bosnian Serb Army, and seized control of more than 70 percent of the land. Bosnian Croats, comprising 17 percent of the population, subsequently organized themselves as the Croat Community of Herceg-Bosna and contested control of territory among the Serbs and Bosnian Muslims. With 44 percent of the people, the Bosnian Muslims are represented by (and are dominant in) the recognized government of the Republic of Bosnia and Herzegovina. Vicious fighting, shifting alliances, widespread atrocities, and the techniques of "ethnic cleansing" have combined to make hundreds of thousands of casualties, and millions of refugees and displaced persons. In the summer of 1992, UNPROFOR II was established within Bosnia to guarantee the delivery of relief supplies, among other humanitarian and peacekeeping duties. With the initialling of the Dayton Accords in November 1995, the Bosnian Federation (the Bosnian Government and Bosnian Croat alliance) came to control slightly more than half the territory of Bosnia, with the Bosnian Serbs holding the balance.

Serbia and Montenegro have asserted the formation of a joint independent state, but this entity has not been formally recognized as a state by the United States; the United States' view is that the Socialist Federal Republic of Yugoslavia (SFRY) has dissolved and that none of the successor republics represents its continuation. The self-proclaimed Federal Republic of Yugoslavia is openly sympathetic to the cause of the ethnic Serbs in Croatia and Bosnia. Although officially uninvolved in the conflict, it has provided assistance to the Serbs in the form of supplies and volunteers.

Macedonia, formally recognized as "the Former Yugoslav Republic of Macedonia," seceded from the Socialist Federal Republic of Yugoslavia on 17 September 1991. Although beset by economic, security, and sovereignty problems, Macedonia is geographically separated from the fighting in Croatia and Bosnia and Herzegovina. Macedonia is the site of the United Nations Preventative Deployment Force, intended to forestall the spread of the conflict in the region.

In both Croatia and Bosnia-Herzegovina, the internationally condemned tactic commonly known as "ethnic cleansing" has been used. Intimidation or overt violence is employed to force all members of other ethnic groups from regions under a dominant ethnic group's control. Multiple indictments have been handed down from the International Criminal Tribunal for the Former Yugoslavia (ICTY) against civil and military leaders of all sides of the conflict, charging them with war crimes, atrocities, and crimes against humanity.

ETHNOGRAPHY

Serbs constituted more than a third of the total population of former Yugoslavia according to a 1981 census. They were followed by the Croats (19.7%), Muslim Slavs (8.9%), Slovenes (7.8%), Albanians (7.7%), Macedonians (6.0%), Montenegrins (2.6%), and Hungarians (1.9%). Three of former Yugoslavia's six republics (Croatia, Macedonia, and Bosnia and Herzegovina) and the two provinces (Kosovo and Vojvodina) had significant intermingling of ethnic groups. Only Serbia proper, Slovenia, and Montenegro were largely homogeneous.

According to the 1974 Constitution, the three official languages of former Yugoslavia were Serbo-Croatian, Slovenian, and Macedonian. Serbo-Croatian is written in the Latin alphabet in Croatia and in the Cyrillic alphabet in Serbia and Montenegro. Both alphabets are used in Bosnia and Herzegovina. Slovenian employs the Latin alphabet while Macedonian is written in Cyrillic.

Religious affiliation in the former Yugoslavia is closely linked with the politics of nationality. Serbia and Montenegro are predominantly Serbian Orthodox but both have muslim minorities as well. Croatia and Slovenia are predominantly Roman Catholic, but many Orthodox Serbs also live in Croatia. Bosnia and Herzegovina has Muslim Slavs, Orthodox Serbs, and Catholic Croats. Vojvodina has significant numbers of Eastern Orthodox, Roman Catholic, and Protestant believers. Religious animosity among the three major denominations, Eastern Orthodox Christian, Roman Catholic, and Islam, remains a divisive cultural factor.

HISTORY OF UN FORCES

The United Nations deployed in the former Yugoslavia in 1992 in the execution of three missions:

United Nations Protection Force (UNPROFOR). Mandated by UNSCR 758/92, which enlarged UNPROFOR in order to encompass the delivery of international humanitarian assistance to the Republic of Bosnia and Herzegovina, UNPROFOR was the largest UN command in the former Yugoslavia. Its missions included the implementation of economic agreements and cease-fire and cessation of hostility agreements. UNPROFOR ceased to exist with the deployment of IFOR.

United Nations Confidence Restoration Operation in Croatia (UNCRO). Initially established as UNPROFOR by UNSCR 743/92 to supervise the implementation of a UN-sponsored peace plan between the Republic of Croatia and its secessionist Serb population. UNCRO's mandate included implementation of the 1994 cease-fire agreement between Croatia and local Serb authorities, facilitating implementation of the economic agreement between the same parties, and assisting in controlling, through monitoring, Croatia's international borders. UNCRO ceased to exist in 1995 after Croatia regained control of all

Serb-held territories except for Eastern Slavonia. The UN Transitional Administration for Eastern Slavonia (UNTAES) was established in 1996 to implement the Erdut Agreement, which restores Croatian control of the territory.

United Nations Preventative Deployment Force (UNPRE-DEP). Established by UNSCR 795/92, and presently consisting of a Nordic battalion and a U.S. battalion, UNPREDEP provides a UN presence on the border of the Federal Republic of Yugoslavia and Macedonia in the interest of maintaining confidence and stability in the region.

SUCCESSOR STATES

The Federal Republic of Yugoslavia (FRY)

The Federal Republic of Yugoslavia (FRY) consists of the republics of Serbia and Montenegro, who remained together after the secessions of the other Yugoslav republics in 1991-1992.

Bosnia-Herzegovina and Federation

Presidency of Bosnia-Herzegovina. The presidency of Bosnia-Herzegovina consists of one Bosniac, one Bosnian Croat, and one Bosnian Serb. The Bosniac and Bosnian Croat are to be directly elected from the Federation, and the Bosnian Serb elected from the Republika Srpska. The member who receives the most votes in the election shall be appointed Chair for the first term of office, which extends for two years. Subsequent terms shall be four years with each presidency member serving as the Chair for an equal amount of the term. Members shall be eligible to succeed themselves once and will then be ineligible for four years.

Council of Ministers of Bosnia-Herzegovina. The Chair or Prime Minister is nominated by the presidency and approved by the House of Representatives. Other members are nominated by the Prime Minister and approved by the House of Representatives.

The House of Representatives of Bosnia-Herzegovina. The House of Representatives of Bosnia-Herzegovina will consist of 42 members with 28 coming from the Federation and 14 from the Republika Srpska. The 42 members will be elected directly according to the election law adopted by the Parliamentary Assembly (the Bosnian national bicameral parliament comprised of both the House of Representatives and the House of Peoples).

Federation Presidency. There will be a President and Vice-President. A caucus of Bosniac and Bosnian Croat delegates from the Federation's House of Peoples will nominate individuals to the Federation presidency. A majority vote by first the House of Representatives, followed by a majority vote by the House of Peoples, will be required to approve the nominations.

The House of Representatives of the Federation of Bosnia-Herzegovina. The chamber will include 140 members. Each party receiving at least five percent of the total votes in Federation-wide elections shall be allocated a proportional number of the 140 seats.

The House of Peoples of the Federation of Bosnia-Herzegovina. The House of Peoples will consist of more than 60 delegates elected from the cantonal legislatures. The body will contain 30 Bosniacs and 30 Bosnian Croats as well as a number of other delegates in proportion to the number of mixed cantonal legislatures.

Cantonal Legislatures. Cantons, as well as municipalities, are the Federation's core administrative units. They are intended to be responsible for much of the governmental activity that directly affects the daily lives of the Federation's citizens. In the Federation, Bosniacs and Bosnian Croats are to be elected for a two year term. Republika Srpska, however, does not have cantons.

Municipal Councils. One hundred forty-nine councils are to be elected for a one-year term during the first election, and a two-year term thereafter. Elections for municipal councils have been delayed until possibly as late as Spring 1997.

BOSNIA AND HERZEGOVINA

IZETBEGOVIC
BOSNIAC

PRESIDENCY

Council of
Ministers

KRAJISNIK
BOSNIAN
SERB

ZUBAK
CROAT

HOUSE OF
REPRESENTATIVES

HOUSE OF
PEOPLES

STATE LEVEL

FEDERATION

REPUBLIKA SRPSKA

ENTITY LEVEL

CABINET

PRESIDENCY

MUSLIM

CROAT

SENATE
55
MEMBERS

PLAVSIC

CABINET

PRESIDENCY

VICE
PRESIDENT

VICE
PRESIDENT

HOUSE OF
REPRESENTATIVES

HOUSE OF
PEOPLES

NATIONAL
ASSEMBLY

CANTON

MUNICIPAL

TOWN

MUNICIPAL

LOW LEVEL

PEOPLE OF THE
FEDERATION

PEOPLE OF THE
REPUBLIKA SRPSKA

Republika Srpska

The Presidency of the Republika Srpska. The Bosnian Serb presidency and vice-presidency will be elected directly by the people residing in Bosnian Serb-held territory. Non-Serb candidates running will have little chance of having an impact on the election.

The National Assembly of the Republika Srpska. The General Framework Agreement (Dayton Agreement) does not specify the composition of this body. It currently consists of 84 members who were elected in the 1990 Bosnian legislative elections. In the upcoming elections, however, 82 members are to be elected to a four-year term.

The Republic of Croatia

The Republic of Croatia declared its independence from the Socialist Federal Republic of Yugoslavia on 25 June 1991, and was recognized by the European Union (EU) in January 1992 and by the United States on 7 April 1992. Croatian Serbs attempted to secede from Croatia in 1991, proclaiming the "Republic of Serb Krajina" and seizing control of four regions later designated United Nations Protected Areas North, South, East, and West. Croatia forcefully reintegrated Sectors North, South and West earlier in 1995 and has negotiated the return of Sector East.

The Former Yugoslav Republic of Macedonia

The Former Yugoslav Republic of Macedonia declared its independence from the Socialist Federal Republic of Yugoslavia on 17 September 1991, and was formally recognized by the United States on 9 February 1994.

The Republic of Slovenia

The Republic of Slovenia declared its independence from the Socialist Federal Republic of Yugoslavia on 25 June 1991, and was recognized by the EU in January 1992 and by the United States on 7 April 1992.

SECTION 5 LANGUAGE

GUIDE TO PRONUNCIATION

Serbo-Croatian is considered one language with some differences between Serb and Croat pronunciation and usage. Two different alphabets are used: Serbian uses Cyrillic script like Russian, and Croatian a Roman script similar to English. Both scripts are used in Bosnia-Herzegovina, both are shown below (to allow you to decipher signs and other printed matter), but only the Croatian is presented elsewhere in this section. Listed below: Serb Cyrillic, Croatian Roman, and the pronunciation. *Stress is too unpredictable to indicate.*

<u>Serb</u> <u>Croat</u> <u>Phonetic</u> <u>Pronunciation</u>				<u>Serb</u> <u>Croat</u> <u>Phonetic</u> <u>Pronunciation</u>			
Аа	Aa	ah	a in father	Лл	Ll	l	l in leg
Бб	Bb	b	b in bed	Љљ	LJlj	l'(y)	li in million
Цц	Cc	ts	ts in cats	Мм	Mm	m	m in moon
Чч	Čč	ch	ch in cheese	Нн	Nn	n	n in night
Ђђ	Đđ	tch	tch in ketchup	Њњ	NJnj	n'(y)	ny in canyon
Дд	Dd	d	d in door	Оо	Oo	o	o in open
Џџ	DŽdz	j	j in jeep	Пп	Pp	p	p in page
Ђђ	Dđ	dj	dj in dodge	Рр	Rr	r	r in room
Ее	Ee	eh	e in bet	Сс	Ss	s	s in sun
Фф	Ff	f	f in fire	Шш	Šs	sh	sh in ship
Гг	Gg	g	g in goose	Тт	Tt	t	t in time
Хх	Hh	(k)h	ch in Loch Ness	Уу	Uu	oo	oo in spoon
Ии	Ii	ee	ee in need	Вв	Vv	v	v in van
Јј	Jj	y	y in yes	Зз	Zz	z	z in zulu
Кк	Kk	k	k in kid	Жж	Žz	zh	s in vision

Special caution: Only Croatian script and usage are presented to save space. Be sensitive to this if attempting to communicate with people of Serbian or Montenegrin extraction. You could, by employing Croatian usage, seem biased towards the Croat cause. One primary difference in usage is that the Serbian variant of the words and phrases below will employ so-called "hard vowels" where the Croatian given is soft. To give a word the Serbian pronunciation, you would normally say "eh" rather than "yeh" - e.g. Croatian mlijeko (*mleeyehko*) / Serbian млеко (*mleehko*); dalje (*dahlyeh*) / дале (*dahleh*); не разумјем (*neh rahzoomeeehm*) / не разумем (*neh rahzoomehm*), etc.

BASIC PHRASES/EXPRESSIONS

Please	Molim	<i>moleem</i>
Thank You	Hvala	<i>hvahlah</i>
OK	U redu	<i>oo rehdoe</i>
OK, thank you.	Dobro, hvala.	<i>dobro, hvahlah</i>
Sorry	Žao mi je / Izvinite	<i>zhaho mee yeh / eezveeneeteh</i>
Excuse me	Izvinite	<i>izvinite</i>
Good day	Dobar dan	<i>dobahr dahn</i>
Good morning	Dobro jutro	<i>dobro yootro</i>
Good night	Laku noć	<i>lahkoo nohtch</i>
Good-Bye	Zbogom	<i>zbogom</i>
Hello	Zdravo	<i>zdrahvo</i>
Big / Small	Veliko / Malo	<i>vehleeko / mahlo</i>
Right / Wrong	Točno / Pogrešno	<i>tochno / pogreshno</i>
Yes / No	Da / Ne	<i>dah / neh</i>
Good / Bad	Dobro / Loše	<i>dobro / losheh</i>
Black / Blue	Crn / Plav	<i>tsern / plahv</i>
Green / Red	Zelen / Crven	<i>zehlehn / tservehn</i>
White / Yellow	Bijel / Žut	<i>beeyehlo / zhoot</i>
Man	Čovjek / Muškarac	<i>chovyehk / mooshkahrahts</i>
Woman / Child	Žena / Dijete	<i>zhennahl / deeyehteh</i>
Family / Relatives	Porodica / Rodaci	<i>porodeetsah / rodjhtsee</i>
Refugee	Izbjeglja	<i>eezbyehgleetsah</i>
East / West	Istok / Zapad	<i>eestok / zahpahd</i>
North / South	Sjever / Jug	<i>syehvehr / yoog</i>
Up / Down	Gore / Dolje	<i>goreh / dolyeh</i>
Left / Right	Lijevo / Desno	<i>leeyehvo / dehsno</i>
Here / There	Ovdje / Tamo	<i>ovdjeh / tahmo</i>
Straight forward	Ravno / Pravo	<i>rahvno / pravo</i>
Near / Far	Blizu / Daleko	<i>bleezoo / dahlehko</i>
Base	Baza	<i>bahzah</i>
Barracks	Baraka	<i>bahrahkah</i>
Camp	Logor / Tabor	<i>logor / tahbor</i>
House	Kuća / Dom	<i>kootchah / dom</i>

Airfield	Uzletiste / Aerodrom	<i>Oozlehteeshteh / Ahehrodrom</i>
Road	Put / Cesta	<i>poot / tsestah</i>
Dirt Road	Seoski Put / Seoska Cesta / Drum	<i>seeohskee poot / seeohskah tsehtah / droom</i>
Paved Road	Asfaltiran Put / Asfaltirana Cesta	<i>ahsfahlteerahh poot / tsestah ahsfahlteerahhah tsehtah</i>
Bridge	Most	<i>most</i>
Car	Auto / Automobil / Kola	<i>ahooto / ahootomobeel / kolah</i>
Plane	Avion	<i>ahveeon</i>
Ship	Brod	<i>brod</i>
Trailer	Prikolica	<i>preekoleetsah</i>
Truck	Kamion / Teretno vozilo	<i>kahmeeon / tehrehtno vozeelo</i>
Tent	Šator	<i>shahtor</i>
Tree	Drvo	<i>dervo</i>
Village	Selo	<i>sehlo</i>
Path	Staza / Cesta	<i>Stahzah / Tsehtah</i>
Square	Trg	<i>Terg</i>
Border	Granica	<i>grahneetsah</i>
Mountains	Planine	<i>plahneeneh</i>
Forest	Šuma	<i>shoomah</i>
Valley	Dolina	<i>doleenah</i>
Hill	Brdo	<i>brdo</i>
Lake	Jezero	<i>jehzehro</i>
Ocean	Ocean	<i>otsehahn</i>
Sea	More	<i>moreh</i>
Meadow	Livada	<i>leevahdah</i>
River	Rijeka	<i>reeyehkah</i>
Rock	Stijena / Krs	<i>steeyehnah / kersh</i>
Days	Dani	<i>dahnee</i>
Hours / Minutes	Sati / Minute	<i>sahtee / meenooteh</i>
Week	Nedjelja / Tjedan	<i>nehd'yehl'yah / tyedahn</i>
Now / Later	Sada / Kasnije	<i>sahdah / kahnseeeyeh</i>
Monday	Ponedjeljak	<i>ponehdyehl'yahk</i>
Tuesday	Utorak	<i>ootorahk</i>
Wednesday	Srijeda	<i>sreeyehdah</i>

Thursday	Četvrtak	<i>• chehtvertahk</i>
Friday	Petak	<i>pehtahk</i>
Saturday	Subota	<i>soobotah</i>
Sunday	Nedjelja	<i>nehdyehl'yah</i>
Yesterday / Today	Jučer / Danas	<i>yoochehr / dahnahs</i>
Tomorrow	Sutra	<i>sootrah</i>

1	Jedan	<i>yehdahn</i>	11	Jedanaest	<i>yehdahnahehst</i>
2	Dva	<i>dvah</i>	12	Dvanaest	<i>dvahnahehst</i>
3	Tri	<i>tree</i>	13	Trinaest	<i>treenahehst</i>
4	Četiri	<i>chehteeree</i>	14	Četrnaest	<i>chehternahehst</i>
5	Pet	<i>peht</i>	15	Petnaest	<i>pehtnahehst</i>
6	Šest	<i>shehs.</i>	16	Šestnaest	<i>shehstnahehst</i>
7	Sedam	<i>sehdahm</i>	17	Sedamnaest	<i>sehdahmnahehst</i>
8	Osam	<i>osahm</i>	18	Osamnaest	<i>osahmnahehst</i>
9	Devet	<i>dehveht</i>	19	Devetnaest	<i>dehvehtnahehst</i>
10	Deset	<i>dehseht</i>	20	Dvadeset	<i>dvahdehseht</i>
30	Trideset	<i>treedeheht</i>	80	Osamdeset	<i>osahmdeheht</i>
40	Četrdeset	<i>cheterdeheht</i>	90	Devedeset	<i>dehvehdeheht</i>
50	Pedeset	<i>pehdeheht</i>	100	Sto	<i>sto</i>
60	Šezdeset	<i>shehzdeheht</i>	1000	Hiljada	<i>heel'yahdah</i>
70	Sedamdeset	<i>sehdahmdeheht</i>			

WEAPONS/GENERAL MILITARY

Ammunition	Municija	<i>mooneetsiyah</i>
Artillery	Artilerija	<i>ahreel'yehreeyah</i>
Explosives	Eksplzivna sredstva	<i>ehksplozeevnah srehdstvah</i>
Grenade	Ručna bomba	<i>roochnah bombah</i>
Knife	Nož	<i>nozh</i>
Rocket launcher	Lansirna platforma (Raketa nosač)	<i>lahnseernah plahfformah (rahkehtah nosahch)</i>
Mine / Mortar	Mina / Minobacač	<i>meenah / meenobatsach</i>
Mine field	Minsko polje	<i>meensko pol'ye</i>
Jeep	Džip / Pinzgau	<i>jeep / peenzgahoo</i>
Cannon	Top	<i>tohp</i>
Missile	Projektil / Raketa	<i>proyekhteel / rahkehtah</i>
Pistol	Pištoltj	<i>peeshtol'</i>
Rifle	Puška	<i>pooshkah</i>
Stronghold	Utvrđjena tačka /Uporište	<i>ootverdjhannah tahchkah / ooporeeshteh</i>
Tank	Tank	<i>tahnk</i>
Armored Personnel Carrier	Borbeno Vozilo Pješadije	<i>borbehno vozeelo pyehshahdeeyeh</i>
Commander	Komandir	<i>komahndeer</i>
Enemy / Friend	Neprijatelj / Prijatelj	<i>nehpreeyahteht' / preeyahteht'</i>
Leader / Commander	Voda / Komandir	<i>vodjah / komahndeer</i>
Officer / Soldier	Oficir / Vojnik	<i>ofeetseer / voyneek</i>
Driver	Vozač	<i>vohzahch</i>
Guard	Straža	<i>strahzhah</i>
Mechanic	Mehaničar	<i>mehhahneechahr</i>
Messenger	Kurir	<i>kooreer</i>
Pilot	Pilot	<i>peelot</i>

INTERROGATION

Do you speak...	Da li govorite...	<i>Dah li govoreeteh...</i>
Anyone speak...?	Da li netko govori...?	<i>dah lee nehiko govoree....?</i>
I don't speak...	Ja ne govorim...	<i>Ja neh govoreem...</i>
Serbo-Croatian	Srpsko-Hrvatski	<i>Serpsko-Hervahstkee</i>

English / German Russian	Engleski / Njemački Ruski	<i>Ehngleskee / Nyehmahchkee Rooskee</i>
What is your job?	Što vam je posao?	<i>shto vahm yeh posaho?</i>
Where do you serve?	Gdje sluzite?	<i>gdyeه sloozheete?</i>
Who is in charge here?	Tko je zapovjednik ovdje?	<i>tko yeh zahpovyehdneek ohvdyeه?</i>
Which group are you in?	U kojoj se grupi?	<i>oo koyoy seh groopee?</i>
Answer the questions!	Odgovorite na pitanja!	<i>odgovoreeteه nah peetahn'yah</i>
What is your name?	Kako se zovete?	<i>kahko seh zovehteه?</i>
Where are you from?	Odakle ste?	<i>odahkleه steه?</i>
Do you understand?	Da li razumijete?	<i>dah lee rahzooomeeyeheteه</i>
I don't understand.	Ne razumijem	<i>neh rahzooomeeyehm</i>
How much / many?	Koliko?	<i>koleeko?</i>
Please, slowly.	Molim, polako.	<i>moleem, polahko</i>
Repeat it!	Kazite to još jednom /ponovite!	<i>kahzheeteه to yosh yehdnom / ponohveeteه!</i>
Where is your unit?	Gdje je vaša jedinica?	<i>gdyeه yeh vahshah ehdeeneetsah?</i>

COMMANDS/DIRECTIONS

Come here!	Dodite ovdje!	<i>dodjeeteه ovahmo!</i>
Come with me!	Dodite sa mnom!	<i>dodjeeteه sah mnom!</i>
Take me (to).....	Odvedite me (do).....	<i>odvehdeeteه meh (do).....</i>
Follow our orders!	Slijedite naredenje!	<i>sleeyehdeeteه nahrehdjehnyeh!</i>
Follow me!	Slijedite me!	<i>sleeyehdeeteه meh!</i>
Wait here.	Čekajte ovdje.	<i>chekkieteه ohvdyeه.</i>
Let us pass.	Pustite nas da prodemo!	<i>poosteeteه nahs dah prohdjehmo!</i>
Be Quiet!	Šutite!	<i>shooteeteه!</i>
Line up	Stanite u red!	<i>stanite u rehđ!</i>
Stay here!	Ostanite ovdje!	<i>ostahneeteه ohvdyeه!</i>
Hurry up!	Pozurite! / Brzo!	<i>pozhooreeteه! / berzo!</i>
Slow down!	Polako!	<i>polahko!</i>
Let us pass.	Pustite nas da prodjemo!	<i>poosteeteه nahs dah prodjehmo!</i>
Move!	Napred! Dalje!	<i>napred! dal'ye!</i>
Stay where you are.	Čekajte tu!	<i>chekkieteه too!</i>
Don't move.	Nemojte se micati / kretati.	<i>nehmoyeteه seh meetsahteه / krehtahteه</i>

Stop!	Stojte!	<i>stoyteh!</i>
Stop or I will shoot/fire	Stojte/stanite ili pucam.	<i>stoyteh/stahneeteh eelee pootsahn!</i>
Keep away. not a step further	Ni koraka dalje!	<i>nee-korakhkah dahl'yeh!</i>
Stay where you are.	Stojte tu! /Stanite tu!	<i>stoyteh too! /stahneeteh too!</i>
Lie down!	Legnite dolje!	<i>lehgneeteh dolyeh!</i>
Get up!	Ustanite!	<i>oostahneeteh!</i>
Warning!	Pa2nja!	<i>Pahzhn'yah!</i>
Watch out!	Pazite!	<i>Pahzeeteh!</i>
Open / Close!	Otvorite / Zatvorite!	<i>otvoreeteh / zaktivoreeteh</i>
Are you carrying a weapon?	Imate li oruzje?	<i>eemahteh lee oroozhych?</i>
Put your weapon down.	Oruzje dolje!	<i>oroozhych dolyeh!</i>
Drop your weapons!	Odlozite oruzje! predajte se!	<i>odlozheeteh oroozhych! prehdieteh seh!</i>
Don't shoot (us)	Nemojte pucati (na nas)!	<i>nehmoyteh pootsahtee (nah nahs)!</i>
Surrender!	Predajte se!	<i>prehdieteh seh!</i>
You are a prisoner(s)	Vi ste zarobljenik (zarobljenici)	<i>vee steh zahrobl'yehneek (zahrobl'yehneetsee)</i>
We must search you.	Moramo vas pretresti.	<i>morahmo vahs prehtrehsti</i>
Hands up!	Ruke u vis!	<i>rookeh oo vees!</i>
Don't be frightened.	Nemojte se bojati!	<i>nehmoyteh seh bo-yahtee.</i>
We are here to help you.	Želimo vam pomoći.	<i>zhehlemo vahm pomotchee.</i>
Ok, no problem	U redu, nema problema	<i>oo rehdoe, nehmah problehmah</i>
MEDICAL/SANITATION		
Antibiotics	Antibiotik	<i>ahnteebeeoteek</i>
Medicine	Lijek	<i>leeyehk</i>
Vitamins	Vitamini	<i>veetahmeenee</i>
Bandages	Zavoj / Traka	<i>zahvoy / trakhkah</i>
Blood	Krv	<i>kerv</i>
Sick	Bolestan (Bolesna for a woman)	<i>bolestan (bolesna)</i>

Dead	Mrtav	<i>mehrtahv</i>
Wound	Rana	<i>rahnah</i>
Burn	Opekotina	<i>opehkoteenah</i>
Clean	Čisto	<i>cheesto</i>
Infection	Infekcija	<i>eenfekhtseeya</i>
Fever	Groznica / Temperatura	<i>grozneetsah / tehmpetrahtoorah</i>
Injured	Ranjen	<i>rahn'yehn</i>
Latrine	Klozet / Nuznik / WC	<i>klozehl / noozhneek / veh-tseh</i>
Men	Muškarci / Ljudi	<i>mooshkahrtsee / l'yoodee</i>
Women	Žene	<i>zheneh</i>
Famine / hunger	Glad	<i>glahd</i>
Malnutrition	Slaba ishrana	<i>slahbah eeskhrannah</i>
Doctor	Doktor / Liječnik	<i>doktor / leeyechneek</i>
Medic	Bolničar	<i>bolneechahr</i>
Shelter	Skloniste	<i>skloneeshteh</i>
Where is the doctor?	Gdje je liječnik?	<i>gdye h yeh liyechneek?</i>
I am a medic.	Ja sam bolničar	<i>yah sahm bolneechahr</i>
I am not a doctor.	Ja nisam liječnik / doktor	<i>yah neesahm leeyechneek/doktor</i>
I am going to help you.	Ja ću vam pomoći.	<i>yah tchoo vahm pomotchee.</i>
Can you walk / stand / sit?	Mozete hodati / stajati / sjediti?	<i>mozhehteh hodahtee / stahyahtee / syehdeetee?</i>
Do you need help?	Da li vam treba pomoć?	<i>dah lee vahm trehbah pomotch?</i>
Are you in pain?	Da li vas nešto boli?	<i>dah lee vahs nehsho bole?</i>
Are you injured?	Da li ste ranjeni?	<i>dah lee steh rahn'yehnee?</i>
Where?	Gdje	<i>gdye h</i>
Let's see.	Da vidim.	<i>dah veedeem</i>
You will get a shot.	Dobit cete injekciju.	<i>dobeet chehteh eenyehkseeeyoo.</i>
Are there any dead?	Da li ima mrtvih?	<i>dah lee eemah mertveeh?</i>
I will take you to the hospital.	Vozim vas u bolnicu.	<i>vozem vahs oo bolneetsoo</i>
What is wrong with you?	Šta vas boli?	<i>shtah vahs volee?</i>

Can you feed yourself?	Da li mozete sami jesti?	<i>dah lee mozhehteh sahmeeyehstee?</i>
Are you pregnant?	Da li ste trudni?	<i>dah lee steh trudnee?</i>
Is the water safe to drink?	Da li je voda za piće?	<i>dah lee yeh vodah zah peetcheh?</i>
Boil your water!	Prokuhajte vodu!	<i>prokoohieteh vodoo!</i>
Wash your hands!	Operite ruke!	<i>opehreeteh rookeh!</i>
Wash yourself here!	Okupajte se ovdje!	<i>okoopieteh seh ovdye!</i>
Where is the latrine?	Gdje je klozet / nužnik?	<i>gdye! djeh klozht / noozhneek?</i>
The latrine is to the right / left / straight ahead.	Klozet je desno / lijevo / ravno.	<i>klozht yeh dehsno / leeyehvo / rahvno</i>
Is the food fresh?	Da li je hrana svieža?	<i>dah lee yeh hrahnah sfeeeyehzhah?</i>
Is the food spoiled?	Da nije hrana pokvarena?	<i>da neeyeh hrahnah pokvahrehnah?</i>
Burn (this / it)!	Sagorite! / Spalite!	<i>sahgoreeteh! / spahleeteh!</i>
Are you injured?	Da li ste ranjeni?	<i>dah lee steh rahn'yehnee?</i>
Yes, I am.	Da, Jesam.	<i>dah. yehsahm</i>
Where? Let me see!	Gdje? Moram da vidim!	<i>gdye? morahm dah veedeem!</i>
Here.	Ovdje.	<i>ovdye.</i>
Open your mouth!	Otvorite usta!	<i>otvoreeteh oostah!</i>
Can you walk?	Mozete li hodati?	<i>mozhehteh lee hodahtee?</i>
Yes, I can.	Da, mogu.	<i>dah, mogoo.</i>

CLOTHING/DISTRIBUTION

Clothing	Odjeća	<i>odyehtchah</i>
Distribution	Distribucija / Raspodjela	<i>deestreebootseeyah / rahspodyehlah</i>
Shirt	Košulja	<i>koshool'yah</i>
Slacks	Hlače	<i>hlahitcheh</i>
Shoes	Cipele	<i>tseepehleh</i>
Boots	Čizme	<i>cheezneh</i>
Coat	Kaput	<i>kahpoot</i>
Gloves	Rukavice	<i>rookahveetseh</i>

Hat	Šesir	<i>shehsheer</i>
Cap	Kapa	<i>kāhpah</i>
Can	Konzerva	<i>konzehrvaḥ</i>
Cup	Šolja	<i>shohl'yah</i>
Glass	Časa	<i>chahsha</i>
Plate	Tanjur	<i>tahnyoor</i>
Spoon	Žlica	<i>zhleetsah</i>
Fork	Viljuska	<i>veel'yooshkah</i>
Knife	Noz	<i>nozḥ</i>
Food	Namirnice / Jelo	<i>nahmeerneetseh / yehlo</i>
Bread	Kruh	<i>krooh</i>
Beer	Pivo	<i>peevo</i>
Butter	Putar / Maslac	<i>pootahr / mahslahts</i>
Cheese	Sir	<i>seer</i>
Coffee	Kava	<i>kahvah</i>
Fish	Riba	<i>reebah</i>
Flour	Brašno	<i>brahshno</i>
Fruit	Voće	<i>voitcheh</i>
Meat	Meso	<i>mehso</i>
Milk	Mlijeko	<i>mleeyehko</i>
Oil	Ulje	<i>ool'yeh</i>
Potatoes	Krumpir	<i>kroompeer</i>
Rice	Riza	<i>reezhah</i>
Soup	Juha	<i>yooḥah</i>
Sugar	Šećer	<i>shehtchehr</i>
Tea	Čaj	<i>chie</i>
Vegetables	Povrće	<i>povertcheh</i>
Water	Voda	<i>vodah</i>
Wine	Vino	<i>veeno</i>
Don't push, we have plenty.	Ne gurajte se, imamo dosta	<i>neh goorieteh seh, eemahno dostah</i>
Don't be afraid!	Ne bojte se!	<i>neh boyteh seh!</i>
Come one at a time!	Dodite jedan po jedan!	<i>dodjeeteh yehdahn po yehdahn!</i>
You are next.	Sad ste vi na redu.	<i>sahd steh vee nah rehdo</i>
Give me your bowl!	Dajte mi vašu zdjelu!	<i>dieteh mee vahshoo zdyeḥloo!</i>

Where is your family?	Gdje je vaša porodica?	<i>gdjeh yeh vahshah porodeetsuh</i>
Go to your family!	Idite (k) vašoj porodici!	<i>eedeeteh (k)vahshoy porodeetsee!</i>
Go home!	Idite kući!	<i>eedeeteh koochee!</i>
What happened?	Šta se desilo / dogodilo?	<i>shlah seh yeh dehseelo / dogodeelo?</i>
We have food/ water.	Imamo jelo / vode.	<i>eemahmo yehlo / vodeh</i>
Form a line!	Stanite u red!	<i>stahneeteh oo rehd!</i>
Do you need....?	Da li vam treba.....?	<i>dah lee vahm trehbah.....?</i>
Food	Jelo / Hrana	<i>yehlo / hrahnah</i>
Medicine	Lijek	<i>leeyehk</i>
Protection	Zaštita	<i>zahshiteetah</i>
Shelter	Sklonište	<i>skloneeshteh</i>
Bring!	Donesite!	<i>donehseeteh!</i>
Distribute!	Razdijelite!	<i>rahzdeeyehleeteh!</i>
Drink!	Pijte!	<i>peeyteh!</i>
Eat!	Jedite!	<i>yehdeeteh!</i>
Fill!	Napunite!	<i>nahpooneeteh!</i>
Give!	Dajte!	<i>dieteh!</i>
Lift!	Dignite!	<i>deegneeteh!</i>
Pour into!	Nalijte!	<i>nahleeyteh!</i>
Put!	Metnite! / stavite!	<i>mehneeteh! / stahveeteh!</i>
Take!	Uzmite!	<i>oozmeeteh!</i>
Load!	Natovarite!	<i>nahtovahreeteh!</i>
Unload!	Istovarite!	<i>eestovahreeteh!</i>

For language requirements that exceed the scope of the key words and phrases presented here, (such as a version of this guide with both Serbian and Croat script and usage, audio cassette tapes, etc.) contact Defense Language Institute Foreign Language Center (DLIFLC), DSN 878-5496/5048, Commercial (408)647-5496/5048.

SECTION 6

HEALTH AND DISEASE

KEY JUDGMENTS

U.S. military personnel deploying to the former Yugoslavia will face risks from environmental conditions and infectious diseases. These will probably be the greatest threats to your health and ability to perform your mission.

Environmental threats will come from contaminated water supplies, poor sanitation and food handling practices, very cold temperatures in the winter and very hot temperatures in the summer, and air/water/soil pollution, particularly around major industrial sites.

The greatest disease threats will be contagious respiratory infections (particularly the flu in the colder months and tuberculosis if you work with refugee populations), diarrhea, diseases carried by mice and rats, diseases carried by flying insects/ticks/mites (risk is highest March through September), and diseases transmitted by sexual contact.

Following all command preventive medicine guidelines is critical for a successful deployment and to return home healthy.

THINGS TO DO BEFORE DEPLOYMENT

Get Your Shots

Be sure to get your shots up to date; ask for them even if you “fall through the cracks” and are not instructed to go to the immunization clinic. Immunizations are a simple and effective action that can almost completely eliminate some of the common health threats.

Obtain Needed Supplies

Look for the appropriate personal protection supplies which aid in avoiding insect bites. Some of the most important and effective are

DEET insect repellent (the lotion in the green tube) and permethrin spray (used in treating your uniform, bed net, and bed net poles). Also be sure you have adequate supplies of prescription medications, including birth control pills. Remember prescription glasses, sunglasses, and other personal items. Be sure to include clothing that is appropriate for anticipated weather conditions.

Get Briefed

If a preventive medicine briefing is not offered, specifically ask to be briefed; all health threats must be clearly understood.

THINGS TO DO (OR NOT TO DO) DURING DEPLOYMENT

Prevention is a major key to maintaining readiness and staying tough. Be aware of what you eat and drink! Consume food, water, and ice from U.S. military-approved sources only. Your preventive medicine personnel work hard to check out what is safe or not...listen and pay attention. In general, all water and food should be thought of as contaminated unless from approved sources. Meals should be from MREs or in the mess hall. If by necessity you must eat on the economy, only eat cooked food that is served piping hot; do not eat cheese or drink milk, and only eat fruit you peel yourself. Street food vendors and buffet-style service are high risk. There is a preventive medicine plan; if you have not been briefed, you should seek guidance through your medical representative. The effect of secondary destruction, due to the war and deliberate interdiction by warring factions, has resulted in widespread contamination of water. Sanitation (garbage and sewage disposal systems) in general has been destroyed or rendered useless.

Protect Yourself Against Heat and Cold

Heat will potentially be a major problem as the summer (June through September) approaches. Heat should be considered the enemy and water a tactical weapon; protect the water supply from theft, accidental contamination, or sabotage. Water discipline is critical. Heat injury can knock out a unit (reducing 10 percent or more personnel to inactive status) in 24 to 48 hours without preventive measures (work rest cycles and copious water intake, up to 15 quarts daily in really hot/

humid conditions of high activity). In hot work conditions, the buddy system works to everyone's advantage - watch your buddy for marked redness of the skin (flushed face), confusion, or unusual weakness; encourage all around you to drink water...don't wait until you are thirsty. Cold will be a problem if you are around during the winter, December through March. Cold injury is made much worse with tobacco use, whether smoked or chewed. Heat and cold injuries are aggravated by alcohol intake.

Stay Clean

Handwashing is amazingly effective at reducing the chance of many types of infections. Follow good personal hygiene and sanitation practices; you will be glad you did. Other personal hygiene measures include attention to drying or cracking of the skin, or irritation from chafing/rubbing and sweat, especially of the feet. Keep as dry as possible, change underwear and socks, and apply powder as often as possible. Apply lotion to dry, cracked skin. A simple skin irritation can become a serious infection if neglected. Report all sores that you can't explain or those that don't heal promptly.

Safe Sex

The best method for the prevention of potentially deadly sexually transmitted diseases (STDs) is **DON'T TAKE THE CHANCE!** If you do decide to have sexual contact, use condoms. If you worry that you may have an STD, seek medical care without hesitation.

Avoid Insect Bites

Personal protection by the use of repellents and barriers to insects goes a long way in preventing insect-carried disease. The DOD "Personal Protection System" includes proper use of DEET (NSN 6840-01-284-3982) insect repellent on exposed skin, proper wearing of permethrin (NSN 6840-01-278-1336) treated uniforms, proper use of bed nets, buddy checks for ticks, and reporting insect problems (ticks noted in the living areas, etc.) to the appropriate Preventive Medicine personnel. If you have not been instructed in these measures, ask for a briefing.

A significant likelihood of exposure to disease-carrying insects exists in Bosnia. Therefore, it is essential to use the following protective measures.

- Use insect repellents properly.
 - Apply DEET only on the skin.
 - Apply permethrin only on clothing and bednets (not on the skin).
- Tuck bednet under bedding; use bednet poles.
- Use only authorized DOD repellents for skin or clothing.

Avoid Breathing Dust

If you are advised to avoid breathing in dust by covering your mouth or wetting down a work surface, **DO IT!** There are areas where some bad diseases are contracted by breathing in the dust.

Avoid Animals

Watch for mice and rats and report any observations. Rodents carry some bad diseases, and they behave in ways that are likely to contaminate your food and water. Food kept in living areas will attract rats. Any food should be in impenetrable containers. Sleeping surfaces should be off the ground. Animals of all types should be avoided; do not keep camp pets. Report any animal bites or animals to Preventive Medicine.

See Medic If You Are Sick

Report to your appropriate medic if you note diarrhea, fever, cough, weakness, or any symptom that makes you less alert or that you can't explain.

Accidental injuries are the most likely cause of death or loss of limb. Alcohol has been a major cause of serious injuries during many past operations. Be smart; use with great caution, if at all. You are in an unusual environment and possibly distracted, tired, etc. Don't add to your risk of an accident by drinking unwisely. Think safety and use all appropriate personal protection gear.

Remember

- Avoid/minimize exposure to animals (alive or dead).
- Conduct regular “buddy-checks” for ticks.
- Discourage pests by disposing of trash properly; eliminate food storage in living areas.
- Wear BDUs treated with permethrin clothing repellent. Treat and mark all uniforms (preferably prior to deployment).
- Minimize exposed skin by keeping sleeves rolled down when possible, especially during peak periods of mosquito biting (dusk and dawn).
- Keep undershirts tucked into pants.
- Tuck pant legs into boots.

THINGS TO DO AFTER DEPLOYMENT

Be sure and get a preventive medicine debriefing, if not offered, after you return. Seek medical care immediately if illness develops, especially if running a fever. Cooperate with medical personnel when advised to get blood tests, even if you don't feel ill.

HAZARDOUS PLANTS AND ANIMALS

Plants

Several types of plants in the former Yugoslavia cause itching, burning, or blistering if the bare skin comes in contact with them. There are also several poisonous plants/trees (including their leaves, berries, fruit, and nuts) that can cause illness or even death if eaten. Assume all plants are poisonous—don't eat them or rub them on the skin.

Invertebrates

Invertebrates include centipedes, scorpions, and black and brown widow spiders.

Snakes

Venomous land snakes include the following:

Vipera ammodytes (Sand, Long-nosed, or Nose-horned Viper). Highly toxic venom. Found in a wide variety of habitats from the lower plains to areas with elevations as high as 2,500 meters, but most often found at moderately high altitudes in dry, sunny terrain with scattered bushes. Seeks gravelly, rocky hills with slopes facing the sun, but also often found in open areas with few trees and bushes or in rock formations near cultivated fields. Mainly a ground dweller, although occasionally climbs into bushes. Average length is 0.6 to 0.75 meters, with a



Vipera ammodytes (Sand or Long-nosed Viper).

maximum length of 0.9 meters. Dorsal body color is usually ash grey in males and grey-brown or brick-red in females, but much variation can occur and some specimens may be found with black-brown to yellowish or even pinkish coloration.

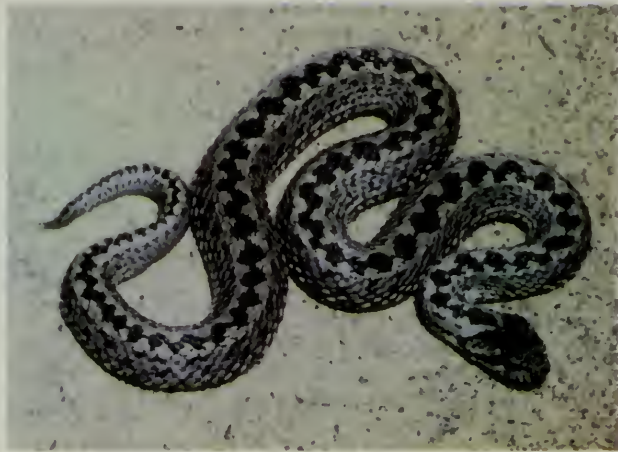
***Vipera berus* (Adder or Common Adder, European or Northern Viper).** Usually found in mountainous areas or moist lowlands. Good swimmer; can be found in rivers and lakes. In general, found mainly in unpopulated areas near or in open fields with bushes and an adequate small animal population. Predominately ground dwelling, but reported to climb into bushes.

Considerable tolerance for cold; may be found even in the vicinity of snow. During cold weather, basks in the sun and retreats to rocky crevices or animal burrows in the evening. May be found in large numbers as they emerge from hibernation. Average length is 0.5 to 0.6 meters, with a maximum length of 0.9 meters. The basic coloration is grey in males and brown in females. However, the color can be quite variable and usually depends on local environment. The dorsal color will range from grey through copper to brown or uniformly black.



Vipera berus (Adder).

***Vipera ursinii* (Meadow or Orsini's Viper, Field Adder).** Found in dry plains and flatlands with few trees or bushes; more common at higher elevations. Also found in thin woods, hillsides, and mountainous regions. May be found in large numbers as they emerge from hibernation. Avoids human confrontation. Small, thick-bodied viper with an average length of 0.4 to 0.5 meters, and a maximum length of 0.65 meters. The coloration of the Meadow Viper is not as variable as the other viper species. The dorsal color of this snake can be grey, yellowish, greenish, or light brown. There are two alternating rows of dark spots on each flank, with the spots of the upper row usually opposite the indentations of the dorsal stripe.



***Vipera ursinii* (Meadow Viper).**

ADDITIONAL INFORMATION

Key Preventative Medicine Measures

Predeployment:

- Maintain physical fitness.
- Get required immunizations.
- Establish buddy system for health maintenance.
- Review SOP for sleep discipline, field sanitation, water discipline, work-rest cycles, and first aid.

- Get information on Slavic culture and current situation.
- Pack cold-weather gear (October-April).
- Pack individual skin and eye protection (insect repellent, sunglasses, sunscreen, and lip balm).
- Bring two pairs of glasses; do not plan to wear contact lenses.
- Pack 6-month supply of prescription medication and (for women) personal hygiene products.

Deployment:

- Minimize jet lag and sleep loss.
- Avoid alcohol, caffeine, nicotine, and carbonated beverages.
- Schedule and eat regular meals; drink plenty of fluids.
- Exercise caution; injuries are common during early phases.

Operations:

- Emphasize safety to prevent accidents.
- Assume all water, beverages, and food from non-U.S. military sources are contaminated.
- Enforce mandatory drinking schedules; always carry water.
- Schedule and eat regular meals.
- Enforce sleep discipline.
- Defecate only in constructed latrines or designated areas.
- Enforce the use of DEET insect repellent and permethrin in rural areas (March-October).
- Take a sponge bath or shower once per day.
- Avoid contact with wild and domestic animals.
- Don't bathe, swim, or wade in unapproved water sources.
- Keep soldiers informed.
- Schedule recreation and regular stress briefings.

Redeployment:

- Report any illness to medical professionals.
- Prepare for reunion with family members.

SECTION 7

FIRST AID/ HOT AND COLD WEATHER SURVIVAL

FIRST AID—INTRODUCTION

First aid is the immediate treatment administered to a casualty before they can reach medical assistance. Prompt and correct first aid for wounds will not only speed healing, but will often save a life—and that life may be yours! The most important points are to remain calm and use common sense. This short guide is intended as an emergency reference. The tactical situation and the expertise of the personnel present may influence treatment decisions.

The four priority life-saving steps in first aid are:

Restore breathing and pulse.

Stop bleeding.

Protect the wound.

Prevent or treat shock.

VITAL SIGNS

To Feel for a Pulse

1. Place the tips of index and middle fingers on the thumb side of the casualty's wrist to feel for a pulse. Do not use your thumb as this will confuse the casualty's pulse with your own.
2. If a pulse cannot be felt at the wrist, check the carotid pulse gently with your fingertips (it is located in a groove next to the windpipe, deep in the neck) or the femoral pulse (deep in the groin).
3. Once a pulse has been located, count the number of beats in 15 seconds and multiply by 4 or if the pulse is very slow or irregular, count for 60 seconds. A pulse rate may vary depending on the casualty's condition.

The normal adult male heart rate is between 70 to 80 beats/ minute, for a female the rate is 75 to 80, and for a young child 82 to 180. However, excitement, exercise, or fever may increase the rate. Be sure to note whether the pulse is weak, full, bounding, or irregular.

Look and Listen for Breathing

Look for the rise and fall of the chest. If it is cold, there may be frost on the casualty's breath.

Place your ear near their mouth and listen for breathing. Note whether the breathing is regular, rapid, shallow, or shows signs of difficulty. Check airway for obstructions.

Check for Wounds and Injuries

Look at the casualty from head to foot checking for bleeding, open wounds, external signs of internal injuries and other problems. Remember that many wounds, particularly bullet wounds, have both an entrance and exit hole; check for both.

CPR

Artificial Respiration

If the casualty is not breathing check airway and remove any obstructions using hooked fingers.

Mouth-to-Mouth Method. With patient lying on back, hold jaw well open while bending head back to prevent tongue from falling and blocking airway. Hold nostrils closed with other hand. Place mouth over patient's mouth and exhale. Watch for chest to rise as you blow gently into patient's lungs. If chest does not rise, perform an abdominal thrust to remove any obstruction (the Heimlich maneuver). Take a breath while watching for fall of casualty's exhale.

For a child: Do not blow. Exhale normally, or in the case of a baby, in gentle puffs. Blowing forcefully into a child's mouth can damage delicate lungs.

Arm-Lift Method. If mouth to mouth technique is not possible due to facial injury or NBC contamination, use the arm-lift method. With casualty on back, check airway for obstructions and kneel behind the casualty's head. Grasp the casualty's hands and place them on the lower ribs, rock forward, pressing downward and forcing air out of the casualty's lungs. When you meet firm resistance lift the arms upward and backward as far as possible. This process of lifting and stretching the arms increases the size of the chest cavity and draws air into the lungs. Repeat cycle of Press-Lift-Stretch.

REPEAT either method, as quickly as possible for first six inflations, then at 12 repetitions per minute until normal breathing is reestablished. **DON'T GIVE UP!**

If no pulse, start alternating cardiac resuscitation and artificial respiration. Give 2 full breaths for each cycle of 15 compressions in single rescuer CPR.

Cardiac Resuscitation

Regardless of the method of artificial respiration, if there is no pulse and, after 10 to 15 seconds, there is no apparent improvement in the casualty's condition, cardiac resuscitation (external heart massage) should be started. There is no time to lose! If the rescuer can't feel a pulse he is going to have to circulate the blood as well as breathe for the casualty.

External Chest Compression. The casualty must be always in the horizontal and supine (lying on their back) position when external chest compression is performed. During cardiac arrest, even during properly performed chest compression, inadequate blood flow to the brain may exist when the body is in an upright position.

1. With the middle and index fingers of the lower hand, locate the lower margin of the casualty's rib cage on the side next to the rescuer.

2. Run the fingers along the rib cage to the notch where the ribs meet the sternum in the center of the lower chest.

3. With the middle finger on the notch, place the index finger next to the middle finger on the lower end of the sternum.

4. Place the heel of the other hand (which had been used on the forehead to maintain head position) on the lower half of the sternum, and just next to the index finger which is next to the middle finger that located the notch. The long axis of the heel of your hand should be placed on the long axis of the breastbone. This will keep the main line of force of compression on the breastbone and decrease the chance of rib fracture.

5. Remove the first hand from the notch, and place it on top of the hand on the sternum so that hands are parallel and directed straight away from the rescuer.

6. The fingers may be either extended or interlaced but must be kept off the chest.

7. Straighten the elbows by locking them, and position your shoulders directly over your hands so that the thrust for external chest compression is straight down. If the thrust is other than straight down, the torso has a tendency to roll, part of the effort is lost, and the chest compression is less effective and requires an inefficient amount of effort.

8. To compress the sternum of a normal-size adult you must push with enough force to depress the breastbone 1 1/2 to 2 inches. With each compression you want to squeeze the heart or increase the pressure within the chest so that blood moves through the body. You must compress at a rate of 80 to 100 times per minute.

9. If you use the weight of your body, you do not depend on the strength of your arms and shoulders as much. Instead of having to push from your shoulders, you let the natural weight of your body falling forward provide the force to depress the casualty's sternum. Keep arms straight.

10. Do not lift your hands off the chest, or change their position in any way, because correct hand position may be lost. Bouncing compressions must be avoided since they are less effective and are more likely to cause injury and additional problems.

BLEEDING

External bleeding falls into the following classifications:

Arterial. Blood vessels called arteries carry blood away from the heart and through the body. A cut artery issues bright red blood from the wound in distinct spurts or pulses. This is the most serious type of bleeding and needs to be controlled promptly.

Venous. Venous blood is blood that is returning to the heart through blood vessels called veins. A steady flow of dark red, maroon, or bluish blood characterizes bleeding from a vein.

Capillary. The capillaries are extremely small vessels that connect the arteries with the veins. Capillary bleeding most commonly occurs in minor cuts and scrapes.

Some methods for bleeding control are direct pressure, elevation, or tourniquet.

Direct Pressure. The most effective way to control external bleeding is by applying pressure directly over the wound. It has to be both firm enough to stop the bleeding and maintained long enough to “seal off” the damaged surface. If bleeding continues after having applied direct pressure for 30 minutes, apply a pressure dressing (a thick dressing of gauze or other suitable material applied directly over the wound and held in place with a tightly wrapped bandage).

Elevation. Raising an injured extremity as high as possible above the heart’s level slows blood loss by aiding the return of the blood to the heart and lowering the blood pressure at the wound. However, elevation alone will not control bleeding entirely; you must also apply direct pressure over the wound.

Tourniquet. Use a tourniquet only when direct pressure over the bleeding point and all other methods failed to control the bleeding. If you leave a tourniquet in place too long, the damage to the tissues can lead to gangrene and loss of the limb later. An improperly applied tourniquet can also cause permanent damage to the nerves and other tissues at the site on the constriction.

If you must use a tourniquet, place it around the extremity between the wound and the heart, 5 to 10 cms about the wound site. Never place it directly over the wound or fracture. Use a stick as a handle to tighten it only enough to stop the blood flow. When you have tightened the tourniquet, bind the free end of the stick to the limb to prevent unwinding. After you secure the tourniquet, clean and bandage the wound.

SUCKING CHEST WOUND

1. Examine casualty and expose a large area around the wound. Remember to check for exit wound on opposite side. Cut away clothing, if necessary.

2. All penetrating chest wounds will be treated as sucking chest wounds.

NOTE: The characteristic hissing, sucking, and fluttering noise that is produced as the patient breathes may not be present.

3. **A sucking chest wound must be closed immediately by any means available.** Use the palm of your hand initially to seal the wound and prevent additional air from entering the chest (thoracic) cavity. The wound should be sealed after the patient forcibly exhales. **Treatment should not be delayed to prepare dressings.**

4. Prepare an air tight (occlusive) dressing of plastic. Sterility should be maintained to prevent further wound contamination. The rescuer might consider using the inside of the plastic wrappers from trauma pads, IV bags, or other medical supplies as these are relatively sterile. The occlusive dressing should be at least 2 inches wider than the diameter of the wound.

5. Cut plastic to required size. Place in palm of hand (clean side up) and apply directly to the wound. Secure three sides of the plastic to the patient with 3-inch adhesive tape. Have the patient forcibly exhale. At the end of the exhalation, seal the remaining side with adhesive tape. When sweating prevents maintaining a seal (i.e., tape does not stick to the patient) or if the wound is massive, trauma pads should be placed with cravats.

6. Have the casualty lie on the injured side to allow the lung on the uninjured side to expand more freely. Treat for shock and evacuate.

7. Reassess patient's vital signs frequently (respiration rate and quality, breath sounds, blood pressure, and pulse).

8. Should the patient develop increasing respiratory difficulty and extreme restlessness and anxiety, air trapped in the chest cavity (tension pneumothorax) must be suspected. The signs of tension pneumothorax are:

- a. Blueness of skin (cyanosis)
- b. Tracheal deviation
- c. Weak, rapid pulse
- d. Decreased or lowered blood pressure (hypotension)

If tension pneumothorax is suspected, immediately lift on corner of the occlusive dressing to break the seal and allow the release of excessive air pressure from the thoracic cavity. The patient's condition should improve as the pressure is released. The occlusive dressing should then be resealed after the patient forcibly exhales.

OTHER WOUNDS

Head. Elevate head. Clean the airway and protect wounded. Position head to allow drainage from mouth. Do not give morphine.

Jaw. Clean and maintain airway, stop bleeding with direct pressure, do not bandage mouth shut, support jaw, position head to allow drainage from mouth.

Belly. Do not touch or replace organs. Use loose, dry sterile dressing. Give no food or liquids.

SHOCK

Signs/Symptoms. Pale, clammy weak skin, nervousness and thirst. They may pass out.

First Aid

1. Lay patient on back, elevate feet, loosen clothing, keep warm.
2. Feed hot liquids if conscious.
3. Turn head to side if unconscious. Remember, shock can kill.

SPRAINS, FRACTURES, AND DISLOCATIONS

Signs/Symptoms. Localized pain and swelling possibly accompanied by discoloration. If a fractured bone protrudes through the surface of the skin, it is considered a compound fracture and the wound should be treated accordingly. Dislocations and fractures may exhibit obvious deformity.

First Aid

1. Remove clothing around the site of the affected area or dislocation. If necessary, cut clothing rather than causing further injury or discomfort.
2. Prior to and following splinting, check blood circulation and for feeling.
3. Splint all fractures in a manner which immobilizes both the joint above and the joint below the fracture site.
4. Fracture joints should gently be returned to splinting position if this can be accomplished without using excessive force or causing the patient to experience extreme pain.
5. Joints that cannot be gently returned to splinting position should be splinted in their current position.
6. Straighten fracture of a long bone with gentle traction prior to splinting.
7. Cover all open wounds with sterile dressings prior to application of a splint.
8. Pad all splints to prevent excessive pressure.

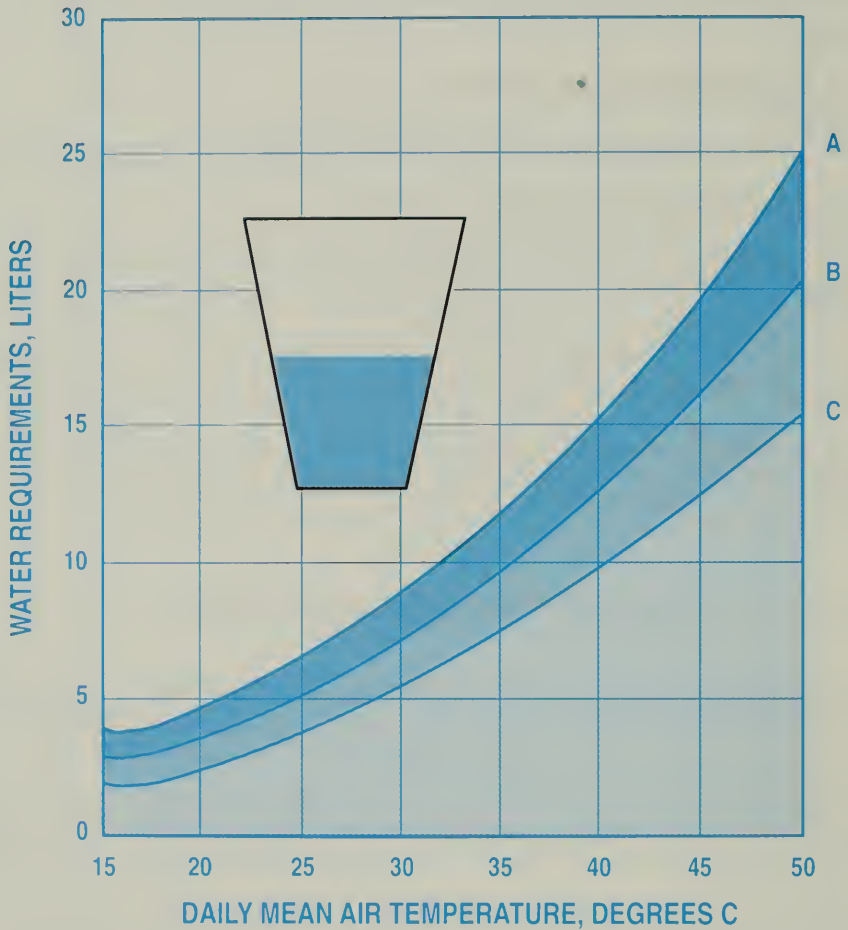
9. Immobilize fractures prior to evacuating.
10. Splint fractures of the lower arm with the hand in position of function.
11. Apply gentle traction while splinting.
12. Leave fingers and toes exposed if possible.
13. Splint should not impair circulation.
14. Elevate the extremity following immobilization, where possible.
15. Elevate the injury, and for sprains apply ice to the affected area periodically for approximately 24 to 48 hours following the injury.
16. For dislocations immobilize and apply ice to the affected area periodically for approximately 24 to 48 hours following the injury.

HOT WEATHER SURVIVAL

A key factor in hot weather survival is understanding the relationship between physical activity, air temperature, and water consumption. Your body's normal temperature is 36.9 degrees C (98.6 degrees F). Your body gets rid of excess heat (cools off) by sweating, the principle cause of water loss. If a person stops sweating during periods of high air temperature and heavy work or exercise, he will quickly develop heat stroke. This is a medical emergency that requires immediate medical attention. The figure on page 7-10 shows daily water requirements for various work levels.

Understanding how the air temperature and your physical activity affect your water requirements allows you to take measures to get the most from your water supply. These measures are —

- Find shade. Get out of the sun.
- Place something between you and the hot ground.



- A: Hard work in sun (creeping and crawling with equipment on).
- B: Moderate work in the sun (cleaning weapons and equipment).
- C: Rest in shade.

This graph shows water needs, in liters per day, for men at three activity levels in relation to the daily mean air temperature. For example, if one is doing eight hours of hard work in the sun (curve A) when the average temperature for the day is 50 degrees C (horizontal scale) one's water requirement for the day will be approximately 25 liters (vertical scale).

- Limit your movements.
- Conserve your sweat. Wear your complete uniform, to include your T-shirt. Your clothing will absorb your sweat, keeping it against your skin so that you gain its cooling effect.
- Do not allow your thirst to be a guide for your need for water. You are already 2 percent dehydrated by the time you crave fluids. Drinking water at regular intervals helps your body remain cool and decreases sweating. Conserve your fluids by reducing activity during the heat of the day.

HEAT INJURIES

Dehydration. Dehydration results from inadequate replacement of lost body fluids. A 1-5 percent fluid loss results in thirst, vague discomfort, lack of appetite, flushed skin, irritability, and nausea. A 6-10 percent loss results in dizziness, headache, labored breathing, no salivation, indistinct speech, and inability to walk. An 11-20 percent loss results in delirium, swollen tongue, inability to swallow, dim vision, painful urination, and numbness. A greater than 20 percent fluid loss is usually fatal. Always drink adequate amounts of fluid. At the first signs of dehydration, get in the shade, keep cool, loosen clothes, and rest. Consume water with a little dissolved salt (a pinch per pint).

Heat Cramps. The loss of salt due to excessive sweating causes heat cramps. Symptoms are moderate to severe muscle cramps in legs, arms, and/or abdomen. These symptoms may start as a mild muscular discomfort. You should now stop all activity, get in the shade, and drink water. If you fail to recognize the early symptoms and continue your physical activity, you will have severe muscle cramps and pain. Treat as for heat exhaustion, below.

Heat Exhaustion. A large loss of body water and salt causes heat exhaustion. Symptoms are headache, mental confusion, irritability, excessive sweating, weakness, dizziness, cramps, and pale, moist, cold (clammy) skin. Immediately get the casualty under shade. Make them lie on a stretcher or similar item about 45 cm off the ground. Loosen their clothing, sprinkle with water, and fan the casualty. Have them drink small amounts of water every 3 minutes. Ensure they stay quiet and rest.

Heat Stroke. This is a severe heat injury caused by extreme loss of water and salt and the body's inability to cool itself. The casualty may die if not cooled immediately. Symptoms are a lack of sweat, hot and dry skin, headache, dizziness, fast pulse, nausea and vomiting, and mental confusion leading to unconsciousness. Immediately get the casualty to shade. Loosen clothing and lay them on a stretcher or similar item 45 cm off the ground. Pour water on and fan them. Massage their arms, legs, and body. If the casualty regains consciousness, let them drink small amounts of water every 3 minutes.

COLD WEATHER SURVIVAL

EFFECTS OF COLD

In extreme cold, a soldier can become numb and indifferent to non-essential tasks. Essential tasks require more time and effort. It has been repeatedly demonstrated that at temperatures lower than -10° F, all other problems lose significance in the personal battle for survival. The human body must be protected. To remain functional, it must be kept clean, dry, and reasonably warm, and normal body processes must be maintained. Rest and nourishment are vital. Remember four basic rules:

- Keep in shape.
- Drink plenty of water.
- Eat to keep fit.
- Maintain a positive attitude.

WINDCHILL

When a high wind is blowing, we feel much colder than when it is calm. Windchill is a measure of the combined effects of wind and temperature. To effectively gauge it, some scale must be used; the most commonly used is the windchill chart. The windchill chart (shown on page 7-13) is a simple and practical guide showing when cold weather is dangerous and when exposed flesh is likely to freeze.

WIND SPEED		COOLING POWER OF WIND EXPRESSED AS "EQUIVALENT CHILL TEMPERATURE"																				
KNOTS	MPH	TEMPERATURE (°F)																				
CALM	CALM	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60
		EQUIVALENT CHILL TEMPERATURE																				
3 - 6	5	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-70
7 - 10	10	30	20	15	10	5	0	-10	-15	-20	-25	-35	-40	-45	-50	-60	-65	-70	-75	-80	-90	-95
11 - 15	15	25	15	10	0	-5	-10	-20	-25	-30	-40	-45	-50	-60	-65	-70	-80	-85	-90	-100	-105	-110
16 - 19	20	20	10	5	0	-10	-15	-25	-30	-35	-45	-50	-60	-65	-75	-80	-85	-95	-100	-110	-115	-120
20 - 23	25	15	10	0	-5	-15	-20	-30	-35	-45	-50	-60	-65	-75	-80	-90	-95	-105	-110	-120	-125	-135
24 - 28	30	10	5	0	-10	-20	-25	-30	-40	-50	-55	-65	-70	-80	-85	-95	-100	-110	-115	-125	-130	-140
29 - 32	35	10	5	-5	-10	-20	-30	-35	-40	-50	-60	-65	-75	-80	-90	-100	-105	-115	-120	-130	-135	-145
33 - 36	40	10	0	-5	-10	-20	-30	-35	-45	-55	-60	-70	-75	-85	-95	-100	-110	-115	-125	-130	-140	-150
Winds Above 40 MPH Have Little Additional Effect		LITTLE DANGER					INCREASING DANGER Flesh may freeze within 1 minute					GREAT DANGER Flesh may freeze within 30 seconds										

Windchill Chart.

COLD WEATHER CLOTHING

Cold weather clothing systems use the design principles of insulate, layer, and ventilate.

Insulation reduces the amount of body heat lost to the environment. By regulating the amount of insulation, you can regulate the amount of body heat lost.

Layering Several layers of clothing provide more insulation and flexibility than one heavy garment, even if the heavy garment is as thick as the combined layers. The secret is dead air space between layers. The more dead air space, the greater the insulating value. Layers can be added as it gets colder and taken away as it warms up or as work increases.

Ventilation helps maintain a comfortable body temperature by allowing the wearer to get rid of excess heat and body moisture. Ventilate either by opening the clothing or by removing insulating layers before you start to sweat.

Remember the acronym **COLD** to quickly check your adherence to the cold weather clothing principles; keep it **C**lean, avoid **O**verheating, wear it **L**oose and in layers, and keep it **D**ry (removing snow and frost before entering a shelter is particularly important in keeping clothing dry).

EFFECTS OF COLD WEATHER ON NOURISHMENT

Caloric Intake. A basic fact of cold weather operations is that soldiers must eat more than usual to function. In cold weather, the greater part of what you eat and drink maintains body heat, while a small proportion produces energy for physical work. Approximately 4,500 calories per day are necessary to do hard, continuous work.

Fluids. The body loses liquid at an exceptional rate in arctic conditions due to evaporation, exertion, and low humidity. However carefully you adjust clothing and ventilation, the heavy exertion of movement on foot and preparation of bivouacs and defenses exacts its toll in sweat and loss of moisture in the breath. These liquids must be regularly replaced, preferably by hot drinks which, if they contain sugar, have the additional advantage of providing extra calories.

COLD INJURIES

The destructive influence of cold on the human body falls into two categories; non-freezing and freezing injuries.

Non-freezing Injuries

Chilbains. This is a superficial tissue injury of the hands, ears or nose, which occurs after prolonged exposure of the bare skin to temperatures above freezing. It appears most often when high winds and high humidity accompany low but non-freezing temperatures. Symptoms include an initial pallor of the exposed areas. There will be redness, swelling, increased warmth, and a sensation of itching after rewarming. Superficial blisters or ulcers may appear with repeated episodes.

Treatment

- In the initial stages, gradually rewarm exposed area(s) at room temperature.
- If the face is involved, you may simply hold a warm hand to the area.

- If the hands are affected, place them in the armpits or crotch.
- If blisters form, gently cleanse the area and protect it to avoid infection.

Prevention

- Avoid prolonged exposure to the elements.
- Protect the obvious exposed areas with adequate clothing and covering.

Trench Foot/Immersion Foot. Trench foot and immersion foot are injuries caused by the prolonged exposure of skin to cold water or dampness at temperatures usually ranging from just above freezing to 50°F. In the early stages, the feet and toes are cold, numb, and stiff, and walking becomes difficult. The feet smell, swell, and become painful.

Treatment

- Gentle drying, elevation, and exposure to temperatures of 64° to 72°F.
- Bed rest, cleanliness, and pain relief.

Prevention

- Change to dry socks three times daily or as often as necessary.
- Use foot powder.
- Wear VB boots.
- If leather boots are worn, dry them whenever possible.

Hypothermia. Simply stated, hypothermia is a lowering of the temperature of the body's inner core. This happens when the body loses heat faster than it can produce it. The potential for this condition will be increased in the presence of fatigue, inadequate hydration, poor nutrition, inadequate protective clothing, and cold water immersion. It must be remembered that freezing temperatures are not necessary to produce hypothermia. Wind, rain, and cold temperatures also cause loss of body heat which can result in hypothermia. Symptoms include uncontrolla-

ble shivering, trouble walking and poor coordination, difficulty speaking, sluggish thinking, disorientation, and an almost total disinterest in the surroundings. In later stages, shivering stops and is replaced by strong muscular rigidity. Exposed skin may become blue and puffy. When the casualty's temperature drops below 86°F, cardiac irregularities occur.

Treatment

- Prevent any further heat loss.
- Get the casualty out of the wind and into the best available shelter.
- Replace wet clothing with dry. Wrap casualty in warm blankets or in a sleeping bag if one is available.
- Place as much insulation as possible between the casualty and the ground.
- Add heat by the best available means to the casualty's neck, groin, and sides of the chest. CAUTION: Do not apply heat to extremities.
- If the casualty is conscious, give him warm fluids. If able to eat, give candy or sweetened foods.
- If casualty is unconscious, he should be remain on his back, with head tilted back to ensure open airway.
- Do *not* massage the casualty.
- Do *not* give alcohol to the casualty.
- *Get the casualty to medical help as quickly as possible.*

Prevention

- Stay physically fit.
- Keep active.
- Use the uniform properly and keep it dry.
- Eat properly and often.

- Drink plenty of fluids, at least 3.5 quarts per day when performing hard work.
- Be prepared for and know how to deal with rapid changes in weather.
- Bivouac early before fatigue impairs judgement.

Dehydration. Dehydration is often an overlooked cold weather injury. See page 7-11.

Prevention

- The minimum daily fluid requirement for persons doing hard physical work in the cold is 3.5 quarts per day.
- By the time you feel thirsty, you are already dehydrated. Drink whenever you have a chance, particularly at halts during movement on foot.
- All canteens should be full before any type of movement during which resupply will be difficult.
- Do not drink coffee when water is scarce. It will pass through you almost as fast as you drink it. Water should be your first choice.
- Check urine spots in the snow. Dark yellow or brown indicates dehydration.

Carbon Monoxide Poisoning. Carbon monoxide (CO) is a deadly, odorless, colorless poison given off by stoves, lanterns, and engine exhaust. There are various symptoms including headache, dizziness, impaired vision, confusion, nausea, palpitations, weakness, and/or muscle pain. Bright red color appears on lips and skin. A casualty may become drowsy and collapse without warning.

Treatment

- Move casualty to open air.
- Keep casualty still and warm.
- Administer mouth-to-mouth resuscitation if casualty is not breathing or is breathing irregularly.
- Administer cardiopulmonary resuscitation, if necessary.
- MEDEVAC as soon as possible.

Prevention

- Ensure that stoves and lanterns are functioning properly.
- Use stoves and lanterns in well-ventilated areas.
- Ensure that tents are well-ventilated.
- Make sure vent holes are used in snow shelters.
- Do not warm yourself by engine exhaust.

Snow Blindness. Snow blindness is a temporary visual disturbance caused by ultraviolet radiation reflected from the snow into the eyes. The danger of snow blindness is greater on a cloudy day than it is on a clear day because one does not have brightness as a warning. Symptoms appear 2 to 12 hours after exposure and includes a gritty and painful feeling in the eyes, tears flow excessively, headache, blurred vision and objects develop pinkish tinge.

Treatment

- Rest in darkness.
- Cover eyes with cool bandage.
- Analgesics or sedatives.
- The injury will usually heal itself from 1 to 5 days.

Wounds. In cold weather, casualties should be given first aid treatment, protected from the cold and shock effects, and evacuated to an aid station without delay. They should be placed in a casualty bag, sleeping bag, or the best available substitute. Remember also that wounds bleed easily because the low temperature keeps blood from clotting. Increased bleeding increases the likelihood of shock.

Wounds open to weather freeze quickly. The body loses heat in the area around the injury, as blood soaks the skin around the wound, and clothing is usually torn. Therefore, early first aid treatment becomes even more important at low temperatures.

Shock. Shock is caused by reduction of the effective circulating blood volume. Shock can be caused by severe injuries, loss of blood, pain, and many other factors. The normal reaction of the body to severe cold is very similar to its reaction to shock. Therefore, shock usually

develops more rapidly and progresses more deeply in extreme cold than in warmer temperatures. Symptoms include apprehension, sweating, pallor, rapid/faint pulse, cold/clammy skin, and thirst.

Treatment

- Reassure the casualty. Pain can be reduced with proper positioning, good bandaging, and splinting.
- Position the stretcher so that the casualty's head and chest is lower than his lower body and legs. About a 1-foot difference is right. Do not do this if it will cause discomfort to the casualty.
- Keep the casualty warm. Normal temperature is best.
- Do not move the casualty any more than necessary. This does not mean movement over distance, but moving a casualty from one stretcher to another, unnecessary lifting or turning over when bandaging or splinting, or moving a casualty from a sleeping bag into a casualty bag, etc.
- Loosen the clothing at the neck, chest, and waist, weather permitting.
- If the casualty is conscious, give sips of warm soup, tea, cocoa, coffee, or another available liquid, but not alcohol.
- The casualty should receive medical attention as soon as possible.

Freezing Injury (Frostbite)

Frostbite is the injury of tissue caused by exposure to freezing temperatures. Frostbite can cause the loss of limbs or other serious, permanent injury. It is the most common injury and is almost always preventable. It seldom occurs in individuals who maintain adequate heat production. Frostbite is most commonly associated with an overall body heat deficit resulting from inadequate equipment, lack of food, lack of water, exhaustion, injury, or a combination of such factors. The feet are most vulnerable to serious frostbite and must receive constant attention.

Superficial Frostbite. This injury involves only the skin or the tissue immediately beneath it. There is a certain amount of whiteness or a waxy appearance around the affected area. Frost nip, a superficial frostbite which usually affects the nose, face or ears, appears as a small patch of white on the skin.

After rewarming, the frostbitten area will first be numb, mottled blue or purple, and then will swell, sting, and burn for some time. In more severe cases, blisters will occur within 24 to 36 hours beneath the outer layer of the skin. These will slowly dry up and become hard and black in about 2 weeks. Generally, swelling of the injured area will subside if the casualty stays in bed or at complete rest. It will last much longer if the casualty refuses to cooperate. Throbbing, aching, and burning of the injured part may persist for several weeks, depending on the severity of the exposure. After the swelling finally disappears, the skin will peel and remain red, tender, and extremely sensitive to even mild cold, and it may perspire abnormally for a long time.

Deep Frostbite. This is a much more serious injury. Its damage not only involves the skin and the tissue immediately beneath it, but also affects the deep tissue (including the bone). It is usually accompanied by large blisters. In marked contrast to superficial frostbite, these blisters take from 3 days to a week to develop. Swelling of the entire hand or foot will take place and may last for a month or more. During this period of swelling, there may be marked limitation of mobility of the injured area(s), and blue, violet, or gray (the worst) discoloration takes place after the first 2 days. Aching, throbbing, and shooting pains may be experienced for as long as 2 to 8 weeks.

Treatment

- For frost nip on the face, place a hand or warm piece of clothing over the affected area. *DO NOT RUB.*
- Cold hands can be rewarmed by placing them in the casualty's armpits or crotch. Cold feet can be placed against another person's stomach.
- Remove wet or constricting clothing, and protect the extremity from further injury with blankets or any other dry material.
- Smoking, drinking alcohol, and/or applying salves or ointments are strictly forbidden.
- For anything other than superficial frostbite, place the casualty in a shelter to prevent further injury. *No attempt should be made to thaw the frozen part - MEDEVAC immediately. If thawing has occurred, the casualty should be considered a litter patient.*

- Follow the 15-minute rule: If the extremities can not be rewarmed within 15 minutes (i.e., capillaries refill, feeling returns, toes and fingers begin to move), the casualty must be treated as a deep frostbite casualty. Evacuate the casualty, taking care to keep the affected part(s) warm as warming was started during the 15-minute effort.

SECTION 8

FWF MILITARY FORCES*

ORGANIZATION AND CAPABILITIES

The Federal Republic of Yugoslavia (Serbia and Montenegro)

The Army of the Federal Republic of Yugoslavia (Vojska Jugoslavije, VJ) remains the best organized and equipped of all the armed forces in the territory of the former Socialist Federal Republic of Yugoslavia. Its mission is the defense of the independence, sovereignty, and territorial integrity of the Federal Republic of Yugoslavia. The VJ consists of ground forces (three armies), and two separate services (Air Force and Air Defense Force, and Navy). Peacetime strength is between 100,000 and 120,000 personnel; wartime strength is 600,000, with a claimed mobilization potential of 2 million. Ground force structure includes eight corps (seven active and one reserve) organized into three armies. The VJ has acknowledged problems in morale, housing, financing, defining a new strategy, relocating equipment, depoliticizing its ranks, and operating under the constraints of the international arms and trade embargoes.

Despite its difficulties, the VJ remains capable of conducting extended brigade-sized, combined-arms operations, and retains the ability to combine regular army, reserve, and irregular units in all operations. With its heritage of the "All Peoples' Defense," the VJ and irregular units are capable of conducting guerilla warfare throughout the width and depth of contested areas.

*FWF = Former Warring Factions

Federation of Bosnia and Herzegovina

During the war, a U.S. sponsored agreement was signed which put an end to the fighting between the ABiH and the HVO. International pressure laid the groundwork for creating a Federation Army consisting of the Bosnian Croat Army and the Army of Bosnia-Herzegovina. Due to ethnic distrust, the Federation has been slow to develop an integrated force at or below corps level, so integration to date has been confined to echelons above corps. Only at the highest level, the General Staff, is there integration of these two FWFs. A likely future configuration of the Federation Army is five ABiH corps and one HVO corps. Certain support assets could serve both the ABiH corps and the HVO corps in common. Total force strength should be approximately 55,000.

The Train and Equip Program is a multinational aid program designed to adjust the balance of FWF military capabilities. Specifically, this program redresses the equipment and training shortfalls of the Federation. Some of the equipment that will be placed into the forces are M60A3 tanks, AMX-30 tanks, M113 armored personnel carriers, light antitank weapons, M16s, and M60 machine guns.

ABiH. The Army of Bosnia-Herzegovina (ABiH) is essentially infantry forces and has a current strength of approximately 40,000. There are five corps and two independent divisions consisting of brigades and battalions, with units varying in size and capability depending on the available manpower and resources. Units are being reorganized, reequipped, and trained.

HVO. The Croatian Defense Council (HVO) has reduced its manpower to the 15,000-20,000 level. The four wartime corps districts remain, each with a combat ready guards brigade. About 25 home defense regiments remain at a low level of manning. The HVO has a few tanks and APCs and about 1,000 pieces of artillery, including mortars.

The Serb Republic

VRS. Bosnian Serb Army (VRS) is completing a major reorganization and modernization of forces. The Bosnian Serbs view their military as guaranteeing the survival of the Serb Republic. They believe the military must maintain a state of combat readiness to respond to hostilities as necessary. Most VRS brigades have demobilized a large number of personnel, but these soldiers can be recalled on short notice. This is especially true in key areas such as Brkco. The VRS currently has three corps and plans to reduce its personnel strength to around 20,000. President Plavsic forced wartime commander General Mladic to resign, and appointed herself commander in chief. She appointed General Colic as the head of the newly formed General Staff.

The Croatian Army

The Croatian military forces are at a stable peacetime strength of 58,000, with about 48,000 in the ground forces. Combat readiness is generally low, although eight brigades and several separate battalions are kept combat-ready. The HV, originally formed quickly under emergency conditions, remains weak in armor, artillery, and aviation. However, potential enemies in the region also have limited capabilities. The HV hopes to reorganize and rearm as a member of NATO. Meanwhile, the HV is emphasizing military training and education along Western lines, while the national leadership lobbies for NATO admission.

GROUND FORCES

The military doctrine of the FWF was based on the concept of total national defense. This doctrine required the former Yugoslav Peoples Army (JNA) to slow the enemy's attack to gain time for the Territorial Defense Force (TDF) to be mobilized. As long as JNA units retained combat capability, the TDF would operate in conjunction with them. However, it was recognized that the TDF and surviving elements of the JNA would be forced to break into smaller units to conduct partisan warfare throughout the country indefinitely. Partisan warfare involves the use of small units to conduct limited attacks, sabotage, ambush, assassination, and reconnaissance throughout enemy-occupied territory.

avoiding major engagements with superior forces. However, partisan forces retain the ability to form larger groups to conduct major operations. The mountains and forest areas of the Adriatic coast and southern Yugoslavia (present-day Bosnia, Montenegro, southern Serbia, and Kosovo) formed the main areas for planned partisan resistance activities. The JNA estimated that 2 million enemy troops would be required to subjugate all of Yugoslavia.

The ethnic warfare that accompanied the break-up of the former Yugoslavia prevented the development of a new military doctrine. When confronted by an exterior military threat, the doctrine of total national defense, in varying degrees, provided the doctrinal basis for the conduct of military actions by the various republics and factions.

The former JNA and TDF transitioned from a force structure based on divisions and regiments to one based on corps and brigades in the mid-1980s. Each FWF generally retains this force structure as the basis of their armed forces. However, TDF forces no longer exist, having been absorbed into the regular army and reorganized into light infantry or reserve units. The missions and roles formerly assigned to the TDF are now being performed by reserve forces.

Combat in the former Yugoslavia generally has involved attacks by multiple, company-sized, or battalion-sized groupings of light infantry and tanks, supported by heavy indirect fires and direct fires from light and medium caliber AAA auto-cannon and antitank weapons. Mines, boobytraps, snipers, and harassing mortar fires remain a constant threat. Unexploded ordnance is also a common danger.

Fully coordinated, multi-brigade operations have been uncommon. Attacks by groups from small bands of 10-20 men up to multiple battalion or full-brigade size have been more frequent. Offensive operations are usually immediately preceded by massed preparatory fires, followed by attacks by company-size groupings of infantry, supported by tanks, AAA, and other heavy weapons.

ENGINEER OPERATIONS

FWF combat engineer forces conduct mobility, countermobility, survivability, and other missions in support of both offensive and defensive operations. All FWF share a common doctrine and training base. The VJ retains a majority of the engineer equipment and trained personnel necessary to carry out these missions. Other forces operating in the former Yugoslavia have the capability to conduct missions at a lower tactical level and with much variation.

Obstacle laying, chiefly mines, is the most pertinent of former-Yugoslav engineer operations. It is carried out by all forces and performed by both engineers and combat arms personnel in the offense and defense. Mines are used to protect point targets, and deny terrain and routes. They are also laid randomly in a harrassment role. Mines have been laid in and around populated areas; on and across lines of communication; and about military camps and airfields. About 30 mine types are in the FWF inventory.

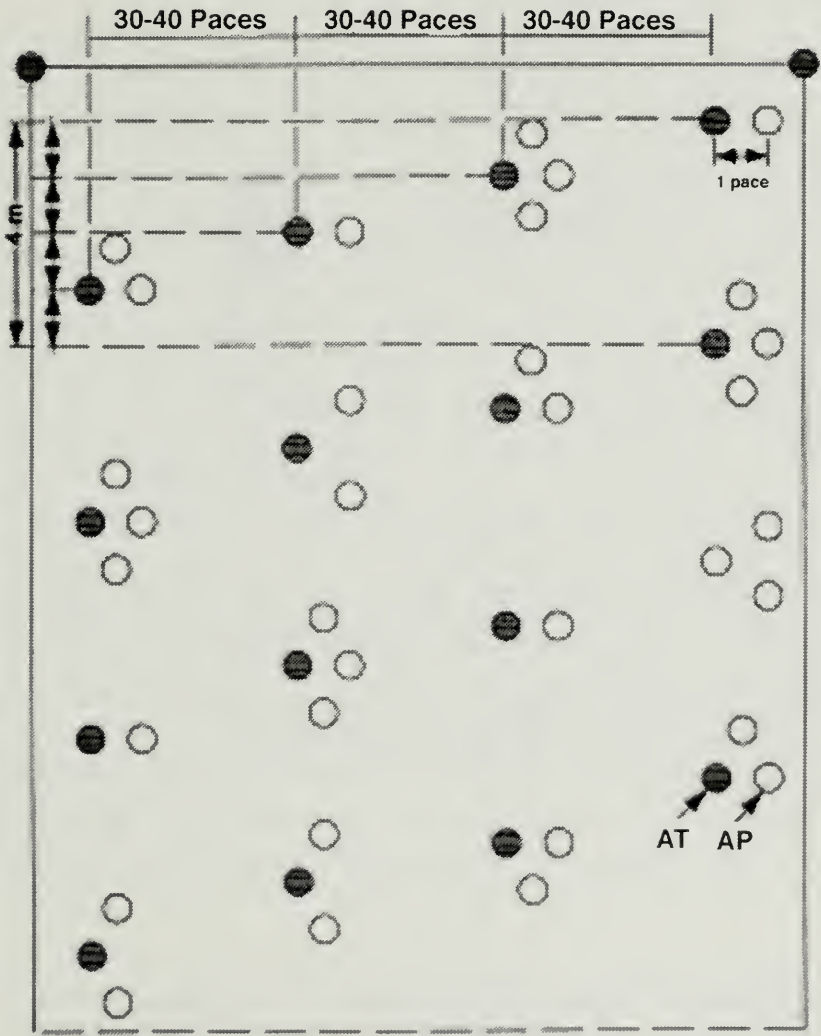
Antitank (AT) minefields can be manually, mechanically, or remotely laid. Remote mining is used to contain and channel enemy forces. The VJ's towed minelayer surface lays mines or buries them at 3 to 4 m intervals. Using four minelayers, a 1 km long AT minefield in a four strip pattern can be laid in 14 to 25 minutes. Maximum burial depth is 20 cm. AT minefields reportedly emplaced by the former JNA were about 100 m long, 20-50 meters deep, and contained 20-40 mines. AT mines may be laid 4 meters apart with 30 meter intervals between rows, though spacing may not be uniform. Many antitank mines used in the current conflict are pressure-activated; others may be trip-wire, magnetically, or seismically fuzed. Standard burial depths range from 13 to 200 cm. Some AT mines feature blast resistance and antihandling devices. AT mines are carefully camouflaged by placing turf clods back over laid mines.

The TMM-1, a pressure-fuze mine with a maximum burial depth of 150 cm, is used extensively in roadblocks. The TMRP-6, a pressure-fuze mine, with a maximum burial depth of 13.2 cm, is blast-resistant and has a hazardous radius of 45 m for vehicles. It is laid manually, mechanically, or by helicopter. The JNA use it for AT and mixed minefields, groups of mines, and for individual laying on terrain, tank routes, roads, and railways. It may also be used in an antihelicopter role. It can be laid in water up to .5 m, and in snow. The optional tilt rod is 60 cm long. In the current conflict, the mine has been horizontally laid in roadblocks and roadside embankments. It has also reportedly been used in the antipersonnel (AP) mode by attaching a 50 m wire to the tripod. It has also been buried in sand berms.

AP mines are buried or attached to stakes above ground. Both buried and stake mines are camouflaged. Recommended burial depths range from 9 to 54 cm. Mines may be pressure, command, and/or trip-wire initiated. Tripwires are straight or angled. Some AP mines can be laid in water to 1.5 m deep. AP mines used in the current crisis may be difficult to detect, blast resistant, and effective in snow and water. AP mines are used alone, with AT mines, and in boobytraps. They may be laid on top of AT mines.

The PROM-1 AP mine is buried 17 to 29 cm underground with the prong and fuze extension protruding above ground. In some cases, a 21 cm tilt rod is attached to the extension above the prong. It is pressure-fuzed, and also features as many as six tripwires, each up to 16 m long, suspended 15 to 20 cm above ground level. In the current conflict, the mine has been taped to trees at head height. Dirt or hay may be used piled in front of mines for concealment. The mine can be laid in water up to 50 cm deep. This mine has been found with downed trees. The PMA-3 is pressure-fuzed, manually laid, and may be buried up to 8cm deep. The mine may be laid singly, in groups, or in fields. It is also laid in still, shallow water to 20 cm, and in snow. This mine may be surface laid, and have up to six tripwires. The PMR-2A/S are trip-wire activated, stake-mounted mines that feature signal devices. When the mine is detonated, the signal flares fire up to 100 m in the air. This mine is also reportedly used with downed trees.

Mixed minefields with up to three or four AP mines in a cluster with an AT mine in the midst may be encountered.



Basic Diagram of a Mixed Minefield.

AT mines are used on roads with AP mines covering the ditches. Holes may be prepared in the pavement. Surface laid mixed mines are also used in roadblocks. AT mines are placed on boards to be rapidly pulled across roads.

Directional mining is used to protect crossroads, bridges, command posts, communication centers, depots, and for interdicting landing areas. Directional mines are used by infantry for all around defense. The MRUD is a tripwire/command detonated directional mine used by the VJ and other forces. The mine can be command detonated from 30 m, or activated via tripwire. It is laid singly or in groups, and can be fired serially. It is used on the ground, in snow, in trees, and in water up to 15 cm deep for up to 24 hours. Mines may be deployed in lanes or semicircles. In the recent conflict, these mines have been reported aimed downwards from trees. Irregular forces reportedly used concentrations of MRUDs aimed into "dead space" where MG fire could not reach.

Warning signs vary. VJ minefields may have warning signs on the friendly side. Mine signs are generally red and white. Lanes have been marked "PROLAZ." Minefields may be marked with red or yellow barrier tape. Other signs had a skull and cross bones and the word "MINE."

Some minefields will have no markings. The VJ records minefields at the unit level, with copies at the higher echelon, civilian defense unit, and at corps engineers. Mines may be concealed or dummy mines used. Smoke pots may be used as masking devices. Smoke pots may have burn times of 20 minutes, and have harmful side effects.

Explosive and non-explosive obstacles may be combined. The JNA used an obstacle combining barbed wire coils and explosives. Rows of coils may be placed from 50 to 200 m in front of the forward edge of the defensive position. The average lethal radius is about 80 m. AP mines may be placed in the intervals between stakes. The obstacle is detonated via trip wires or command detonation from 100 m distant posts.



Minefield Markings.

Boobytrap devices are frequently used in the current conflict. Structures, weapons, corpses, and common items such as stereo equipment, pens, and flashlights may be boobytrapped. Various sophisticated fuzes are available, as are inertial, heat sensing, light sensing, timed, trip, sound, and vibration antihandling devices. Boobytraps in the current conflict have included:

- buried 120-mm mortar rounds fitted with pull fuzes and tripwires
- structures rigged with AT mines hidden under floors, with fuzes altered to function with less pressure
- improvised claymore-type and stake mines
- grenades rigged against tops of doors

- stacks of AT mines with antihandling devices between mines
- propane bottles loaded with gas and explosives
- the TMRP-6 fuze initiating during removal from mine. The black powder clearing charge initiates when fuze is in safe condition.
- small devices, probably grenade with no pin, placed in glass and attached to door handle. When door opened, device falls and breaks, releasing grenade.
- small hole drilled through table top, with fishing line through hole and glued to bottom of a glass. Line was also connected to initiator-explosives. Moving glass sets off explosion.

Fortification is carried out by engineers and combat arms personnel of all forces, in the field as well as in urban areas. The VJ and possibly other forces may employ self-propelled engineer systems to rapidly fortify positions when not in direct contact. The VJ's tracked trencher digs trenches 1.5 m deep and .8 m wide. The VJ's tracked ditcher digs ditches 4.5 m deep and 3.5-4 m wide. Dozer blades may be fitted onto T-54 and T-55 tanks for fortification and obstacle clearing.

CHECKPOINTS

Checkpoints could be employed by all factions to control movement along routes in contested areas. They would be mainly situated along key terrain features, natural choke points, bridges, and frontline positions. A typical checkpoint may include the following:

- Antitank (AT) and antipersonnel (AP) mines emplaced along both sides of the route
- Iron tetrahedron obstacles in front of the checkpoint
- Moveable concertina barbed wire
- Surface-laid AT mines

- Light AT and machine gun emplacements (in concealed positions to include buildings and bunkers)
- 5 to 10 checkpoint guards (a larger guard force may be expected when closer to frontlines)
- Guards attempting to extort “tariffs” or “tolls” in return for passage



Example of a Typical Checkpoint.

AIR DEFENSE

The FWF in Bosnia-Herzegovina have consolidated their air defense systems at a small number of control points and are prohibited from operating any target acquisition or fire control radars. Hand-held SAMs, anti-aircraft guns, and even concentrated small arms fire could do considerable damage in a short-range ambush. In war, emphasis would likely be placed on exploiting the high mobility of SAMs which can readily be re-deployed from one camouflaged position to another after firing a few rounds. An imaginative use of SAMs and AAA in the heavily forested hills and mountains of former Yugoslavia could be very effective against a modern air force. Moreover, AAA has been employed in the direct fire mode against ground targets and populated areas. Lastly, the point defense of high value targets, such as airfields, major cities, key industrial facilities, by SA-2s, SA-3s, SA-9s, SA-7/14/16/18s, and AAA, would remain a priority.

FIXED-WING AVIATION

The Yugoslav Air Force has about 230 combat aircraft, and more than 30 different types of rotary and fixed-wing aircraft are in service. However, the Serbs can reportedly put in the air only about 200 fixed-wing aircraft. A few have fallen into Croatian hands and a small number were transferred to the Serbian Republic of Bosnia-Herzegovina by the Yugoslav armed forces. Flight operations over Bosnia have been conducted in a haphazard manner since the implementation of no-fly restrictions.

The primary fighter used by the Serbs is the MiG-29/FULCRUM. The primary mission of the MiG-29 is air intercept and destruction of enemy aircraft. Their secondary role is ground attack. The Serbs also use the MiG-21/FISHBED which was designed for fighter intercept operations.

Serbia also uses the J-22 Orao-1, a single-seat jet intended for ground attack, CAS, and tactical reconnaissance, and the J-1 Jastreb, a single-seat variant of the G-2 trainer, used to provide ground support and tactical reconnaissance. These missions are carried out at low levels and at high speeds.

Although the Serbs have the most significant air force among the FWF, they have experienced great difficulty in effectively carrying out local operations, both ground and air, if they must share the sky with other air forces.

ROTARY-WING AVIATION

The former Socialist Republic of Yugoslavia operated Mi-8 HIP and SA-341/342L Gazelle helicopters. Some of these were transferred to the Serbian Republic of Bosnia-Herzegovina by the Yugoslav armed forces. Croatia operates Mi-8 HIP and Mi-24 HIND helicopters as well. All helicopter forces, regardless of faction, use tactics developed by the air forces of the former Socialist Republic of Yugoslavia. Currently, helicopters can provide fire support, reconnaissance, artillery spotting, air assault, medical evacuation, VIP transport, and troop transportation.

In general, helicopters are not equipped with self-protection electronic or infrared countermeasures. Some aircraft have strap-on countermeasures equipment that can be installed, but few, if any, aircraft have this equipment.

The helicopter forces in this area do not have the capability to perform extensive night or limited-visibility operations. They can be expected to make extensive use of first-light and last-light opportunities.

NAVAL FORCES

Federal Republic of Yugoslavia

Forces Available. The Federal Republic of Yugoslavia (FRY) inherited (or confiscated) the bulk of the naval assets of the former Socialist Federal Republic of Yugoslavia (SFRY). This coastal defense fleet includes patrol submarines of the Sava and Heroj classes and midget submarines, four frigates of the Split and Kotor classes, a number of STYX missile patrol boats (Koncar and OSA-I classes), a large quantity of coastal and riverine patrol boats, various amphibious and mine warfare craft, and miscellaneous auxiliaries. The navy includes a small coastal defense force (coastal artillery and commandos). Federal

Navy assets are concentrated in Tivat Bay, Montenegro, with some overflow to the Montenegrin port of Bar.

Training and Doctrine. The old SFRY Navy was ethnically 80 percent Croat and consisted of 40 percent conscripts. The present FRY Navy is nearly all Serb and Montenegrin, but consists of 75 percent conscripts. Its doctrine is focused on the defense of the Montenegrin coast. Limited funding and lack of maintenance restricts the force.

Mine Warfare. FRY Navy units engaged in minelaying along the Dalmatian coast during the 1992 conflict; these mines should have self-destructed by this time. Most of the SFRY's mine inventory was transferred to Montenegrin bases as part of the 1992 cease-fire agreement between Croatia and the FRY; the FRY Navy retains the assets to emplace coastal defense minefields along the Montenegrin coast. Many shallow water, very shallow water, and land mines in the Yugoslav inventory are usable in fresh water lakes and rivers as well.

Coastal Defense. The FRY Navy's Coastal Defense Command inherited the former SFRY assets along the Montenegrin coast. A series of radar and visual observation posts provides warning of approaching naval forces, and this information can be relayed to fixed and mobile gun positions and SSC-3 missile batteries. Two motorized infantry brigades can act as a reaction force to landing attempts.

Recent Operations. The FRY Navy conducts regular training exercises off the Montenegrin coast in order to train its essentially new force. Only a small percentage of its fleet is involved in these activities at any given time.

Croatia

Forces Available. Croatian forces seized a small number of missile patrol and gun patrol craft as well as about a dozen amphibious craft early in the conflict. They have since put into commission one missile corvette (the Kobra-class King Petar Kresimir IV) and two 14-meter Galeb-class patrol boats.

Training and Doctrine. Croatia supplied 80 percent of the personnel to the former SFRY Navy; their personnel force consists of ethnic Croats who abandoned the SFRY Navy during the fighting, and is relatively well trained. Senior naval personnel have been exposed to Western naval doctrine.

Mine Warfare. Croatia claims to not have any naval units suited for a naval mining campaign; however, about half the amphibious list is capable of limited minelaying operations, and the assault ship/minelayer Cetina was accepted by the Croatian Navy on 19 February 1993. Several landmines in the Croatian inventory are suitable for employment on beaches and in rivers and lakes.

Coastal Defense. Coastal surveillance is provided by radar surveillance posts. Fixed gun emplacements located on both the coast and offshore islands provided the backbone of the defense system; most coastal artillery was either destroyed by or withdrawn with retreating Federal forces. That which was able to be recovered has probably been pressed into service in the land campaigns. Several naval infantry companies were formed during the conflict to blockade JNA barracks in coastal cities; they were allegedly used in amphibious operations along the coast as the conflict progressed.

Recent Operations. The Croatian Navy patrols in the vicinity of its bases and coastal islands.

COMMAND, CONTROL, AND COMMUNICATIONS (C3)

Serbia/Montenegro - FRY (VJ)

The President of the FRY is the constitutional commander in chief of the VJ. The General Staff exercises routine operational control over ground, naval, and air/air defense forces. Ground forces C2 extends from the army level to the corps, brigades, and other subordinate formations. General Staff communications probably rely on both dedicated military communication systems as well as systems provided by the public Post, Telephone, and Telegraph (PTT) authority. Higher echelon communications are likely carried over buried fiber optic and coaxial cable, radio-relay, and high-frequency (HF) radio broadcast. Opera-

tional and tactical level formations probably rely on fixed and mobile radio-relay in the VHF/UHF ranges, as well as HF broadcast. Communications security is probably provided by frequency hopping radios, encryption equipment, and COMSEC practices.

Croatia

The President of Croatia is the supreme commander of all Croatian Army (HV) forces. Command and control extends from the President, through the General Staff, to subordinate territorial military corps districts. Higher echelon communications are probably carried on both dedicated and civil PTT nets by cable, radio relay, and HF radio. Lower echelon formations rely on mobile radio-relay and radio systems. Tactical units rely on manpack VHF/UHF equipment. HV forces probably have access to frequency hopping radios and encryption equipment for security.

Bosnian Government

The President of Bosnia-Herzegovina exercises command and control over Bosnia Army forces through the Defense Staff and subordinate corps commanders. Throughout the conflict, Bosnian forces have had only limited quantities of communications equipment for national-level or tactical communications. As a result, Bosnian forces often had to rely on non-technical means such as human couriers to pass orders. Those systems currently in use probably consist of handheld and mobile VHF/UHF equipment and HF broadcast. Civil PTT systems, which were badly damaged during the conflict, are being rebuilt and are probably used for command and control.

Serb Republic (VRS)

Serb Republic forces are controlled by the President and the General Staff. VRS forces employ C3 systems and networks left behind by the departing JNA in the early 1990s. Serb Republic forces rely on radio-relay and HF radio systems from several foreign and indigenous manufacturers. At lower echelons, mobile VHF/UHF equipment predominates. In addition, human couriers and operational portions of the pre-breakup cable system are probably used.

ELECTRONIC WARFARE

In the mid-1980s, the JNA acquired western electronic warfare (EW) technology and systems to augment its own indigenous capability. The Yugoslavs developed a relatively sophisticated doctrine for employing EW systems on the battlefield, and were beginning to develop systems to disrupt advanced capabilities such as frequency hopping radios. Since the breakup of the country, each new entity has at least a limited capability to employ these systems, usually against each other. EW operations are primarily geared to the tactical and operational levels in support of limited objectives. Fixed and mobile EW units are likely controlled by higher-echelon commanders at the corps and brigade level. Ongoing EW operations could cause some communication disruption and interference.

NBC OPERATIONS

Chemical Capability

Indigenous to the FWF is a chemical warfare agent production capability that includes both lethal and non-lethal chemical agents. The VJ has weaponized CS, a riot control agent, and it has probably made this agent available to the Serbian paramilitary forces. The VJ possesses a CS hand grenade. They may also have weaponized the incapacitating agent BZ and are suspected of having unknown quantities of unweaponized mustard and sarin.

Characteristics of chemical agents thought to be in the former Yugoslavia:

Agent	Color	Odor	Toxicity	Protection Required
CS	Colorless solid	Pepper	Irritating; not toxic	Protective mask and clothing
BZ	White solid	None	Delayed action incapacitant	Protective mask
Sarin	Colorless liquid	None	Very high	Protective mask and clothing
Mustard	Dark liquid	Fishy to fruity	High	Protective mask and clothing

Use of Chemical Agents

The only confirmed use of chemical agents has been CS, which has been delivered by aircraft and, reportedly, mortars. Aircraft have also been used to dispense a "spider web," which is a very sticky, snowflake-like material initially reported to be toxic to humans. Subsequently, some samples were collected and analyzed. From these data and investigations of alleged toxic effects, it was determined that this material is not toxic and is not a chemical or biological warfare (CW/BW) agent. However, the purpose of this material is still unknown.

Allegations of battlefield use of lethal chemical agents in the former Yugoslavia have not been confirmed. Canisters employed by the former JNA were found by Slovenes, who alleged them to be chemical weapons. The former JNA claimed they were training rounds in which non-poisonous substances were used to resemble chemical agents in viscosity, color, and smell. The VJ does possess chloracetophenone (CN), which is a riot control agent, and an unidentified chemical used to simulate mustard gas contamination for training in detection, decontamination, and protection.

Threats to use poisonous industrial gases, such as chlorine, have been made. There are unconfirmed reports of the use of hand grenades that release a dense brown smoke that causes nausea, vomiting, headache, and irritation of the respiratory tract and mucous membranes.

Organization of Chemical Defense Forces

Yugoslav Army. Each brigade has a chemical defense platoon commanded by a chemical officer. Half of the platoon is dedicated to decontamination and the other half to detection. Individual soldiers in smaller units are trained for decontamination and detection. Medical personnel are responsible for individual decontamination of wounded soldiers.

Croatian Army. Each brigade probably has a chemical defense platoon, most of which is devoted to decontamination. Croatian regulations require three hours for complete decontamination of a mechanized infantry battalion in a hypothetical chemical attack.

SECURITY FORCES, HOSTILE INTELLIGENCE SERVICES, PARAMILITARY ORGANIZATIONS, AND TERRORISM

Forces in Bosnia are in an environment where the distinctions among conflict, combat, and terrorism were blurred. Apart from IFOR forces, some foreign government and quasi-governmental personnel remain in Bosnia, to include security forces, intelligence services, paramilitary groups, and transnational terrorist organizations. Governments and militaries have intelligence, counterintelligence, and security services with overlapping responsibilities and varying respect for international conventions. Missions range from information collection and interrogation through personal protection of VIPs.

Although many traditional transnational terrorist organizations, such as the Palestine Liberation Organization (PLO), Abu Nidal Organization (ANO), Popular Front for the Liberation of Palestine-General Command (PFLP-GC), Japanese Red Army (JRA), and the Armenian Secret Army for the Liberation of Armenia (ASALA), had previously enjoyed the hospitality of the former SFRY, none chose the former Yugoslavia as a battleground. However, all have the potential to carry out terrorist attacks throughout Europe. What can be considered terrorist-style tactics have been adopted by many of the ethnic-based paramilitary groups loosely affiliated with national armed forces, particularly directed against the civilian populations of rival ethnic groups. Nearly every possible combination of uniform and equipment, including U.S. and NATO uniforms and M-16s, are available on the open or black markets, making it extremely difficult to tell forces apart. Heightened security awareness and precautions in accordance with unit SOPs are, therefore, essential.

SECTION 9 CIVIL FORCES

FWF POLICE FORCES

All of the FWF have municipal, military, and internal security police forces based on the former Yugoslav model. The duties of the civil police forces include basic law enforcement, counterterrorism, and internal security missions.

- Municipal police forces are among the least professional and carry out local law enforcement duties, including traffic enforcement, minor criminal investigations, and other routine activities associated with peacetime police work.
- FWF military police are found at corps and brigade level and have many of the same rear area security functions as NATO military police.
- FWF MUP (Ministry of Internal Security) special police or internal security forces are more elite, heavily-armed paramilitary forces that conduct special protection details and counterterrorism and could be used to conduct military operations.

Because the FWFs continue to use demobilized soldiers as part of their civil police forces, current force structures and personnel strengths for civil police forces are unclear. Many reports exist indicating “rebadging” of soldiers directly into police units. FWF are also using military forces in the guise of civil police as one way to maintain military readiness postures. Best estimates of MUP and military police forces follow:

Bosnian Ministry of Internal Affairs

A minimum of 3,800 total troops, with subordinate headquarters in Sarajevo, Tuzla, Mostar, Zenica, and Bihac.

Bosnian Army Military Police

Six corps level MP battalions of at least 300 troops each (1,800). Military police in brigade level platoons probably total 2,000-3,000 troops.

Bosnian Croat Ministry of Internal Affairs/Special Police

Seven known detachments of 150-200 police each, totalling some 1,050-1,400.



Bosnian Croat Ministry of Internal Affairs Shoulder Patch. (Police in Croatia use a similar patch.)



Bosnian Croat Special Police Shoulder Patch. (Police in Croatia use a similar patch.)

Bosnian Croat Army Military Police

Four corps level MP battalions of 300 each (1,200 total) and an MP platoon in each of the Guards Brigades (120 total) for an overall total of 1,320.

Bosnian Serb Special Police

One brigade of nine detachments of 300-500 troops each (total 2,700-3,150).



**Bosnian Croat Army
Military Police Shoulder
Patch.**



**Bosnian Serb Special
Policeman.**

Bosnian Serb Military Police

Six battalions of 200 troops each (1,200 total).

REGIONAL/LOCAL POLICE FORCES

Local and elite police forces have expanded in Bosnia and often wear similar uniforms and badges. This makes identifying and distinguishing between police forces difficult. Some typical FWF police badges and uniforms are pictured on the following pages.



Bosnia-Herzegovina Police Force.



Military Police Patch



Republic of Serbia Police Force.



**Bosnian-Muslim Military
Police With White Arm Band.**

INTERNATIONAL POLICE TASK FORCE

According to Annex 11 of the General Framework Agreement on Peace in Bosnia and Herzegovina (the Dayton Peace Agreement), the United Nations established the International Police Task Force (IPTF) as a UN Civil Police operation to assist in establishing a safe and secure environment by maintaining law enforcement agencies that respect internationally recognized standards of human rights and freedoms. The IPTF's mission includes:

- monitoring, observing, and inspecting law enforcement activities and facilities;
- advising and training law enforcement personnel;
- facilitating the parties' law enforcement activities and accompanying the parties' law enforcement personnel to assist them in their duties;
- and advising authorities on the organization of effective civilian law enforcement agencies.

The IPTF is divided into three regions: Sarajevo, Tuzla, and Banja Luka. The UN has opened multiple district and local offices. The IPTF also has officers assigned to a Zagreb regional office.

The following countries are providing police officers for the IPTF:

COUNTRY	NUMBER
Argentina	40
Austria	17
Bangladesh	50
Bulgaria	50
Canada	5
Denmark	38
Egypt	25
Estonia	10
Finland	15
France	100
Germany	152
Ghana	100

COUNTRY	NUMBER
Greece	10
Hungary	35
India	100
Indonesia	40
Ireland	30
Jordan	98
Malaysia	50
Nepal	200
Netherlands	50
Nigeria	16
Pakistan	250
Poland	26
Portugal	50
Russia	40
Senegal	60
Spain	48
Sweden	40
Switzerland	5
Tunisia	12
Turkey	46
Ukraine	30
United States	150
Total	1,988

IPTF monitors wear their national police uniforms with blue berets. An American IPTF monitor is pictured on page 9-9.

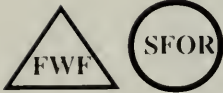


Example of an American
IPTF Monitor.

Equipment Symbology Legend



Equipment of the Former
Warring Factions - (FWF)

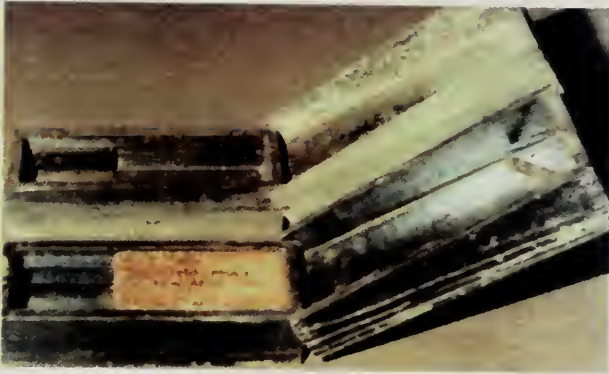


Equipment Common Between the
FWF and the SFOR



Equipment of the Stabilization
Forces - (SFOR)

SECTION 10 FWF MINES

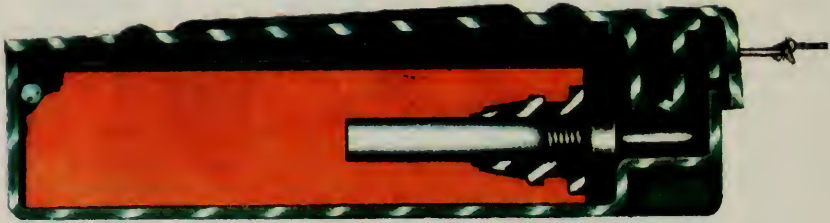


PMA-1, PMD-1

The **PMA-1** and **PMD-1** are olive drab or natural colored wooden antipersonnel mines with similar dimensions. PMA-1 dimensions are 191mm X 89mm X 64mm (7.5 in X 3.5 in X 2.5 in) while the PMD-1 dimensions are 196mm X 87mm X 50mm (3.4 in X 7.7 in X 2 in). They each use a pressure-initiated fuze with a 1 to 9 kg (2.2 to 19.8 lb) sensitivity, dependent upon the condition of the striker release pin in the fuze. They are readily detectable with hand-held detectors due to a fair amount of metal in the fuze and detonator assembly. Manual probing for this type mine may be hazardous.

Blast Lethal Mechanism - 200 g TNT





PMA-1A

The **PMA-1A** is a plastic version of the PMA-1 equipped with a low-metallic-content fuze. Mine dimensions are 140mm X 68mm X 31mm (5.5 in X 2.5 in X 1.2 in). The mine uses a pressure sensitive, chemical-friction fuze functioning on 3.0 to 15 kg (6.6 to 33 lb). Due to the low metallic content of this mine (a metal foil weighing less than 0.4 g), this mine is very difficult to detect with hand held mine detectors. The PMA-1A is judged one of the six most commonly encountered anti-personnel mines in Bosnia.

Blast Lethal Mechanism - 200 g TNT





PMA-2

The **PMA-2** is a small antipersonnel mine with a diameter of 68mm (2.6 in). The mine uses a pressure sensitive, chemical-friction fuze with a sensitivity of 5.0 to 15.0 kg (11 to 22.1 lb). Due to the low metallic content (a metal foil, striker tip, and detonator capsule all weighing less than 0.5 g), this mine is very difficult to detect with hand held mine detectors. The PMA-2 is judged one of the six most commonly encountered antipersonnel mines in Bosnia.

Blast Lethal Mechanism - 100 g TNT





PMA-3

The **PMA-3** is a cylindrical antipersonnel mine with a diameter of 103 mm (4 in) and a height of 36 mm (1.4 in). It uses a pressure-initiated fuze that is designed to explode only when the upper pressure plate rotates within the lower assembly, which contains the fuze. The sensitivity of this fuze ranges from 3.0 to 15 kg (6.6 to 33.1 lb). This mine is difficult to detect using hand-held mine detectors due to the limited amount of metal in the mine. The blast overpressure resistance of this unique fuze of this mine means that less pressure is required to activate it when pressed near the edge of the pressure plate. Use extreme caution when using manual probes. The PMA-3 is judged one of the six most commonly encountered antipersonnel mines in Bosnia.

Blast Lethal Mechanism - 35 g Tetryl





TM-100

The **TM-100** is an cylindrical antipersonnel mine with a diameter of 33 mm (1.3 in) and a length of 107 mm (4.2 in). It is olive drab in color. This mine consists of the TM-100 demolition block equipped with any of a variety of fuze types including trip-wire, pressure, or pressure release. The fuze most often associated with this mine is the UANU-1 pressure fuze used in the TMA-1A and TMA-5 antitank mines. Due to the low metallic content (a metal foil and detonator capsule all weighing less than 1.5 g), this mine is difficult to detect with hand-held mine detectors.

Blast Lethal Mechanism - 100 g TNT





TM-200 AND TM-500

The **TM-200** and the **TM-500** are both general-purpose demolition charges converted to a landmine by using any of several optional fuzes and detonators inserted in the fuze well. The TM-200 has dimensions of 59mm X 32mm X 109mm (2.3 in X 1.3 in X 4.3 in) while the TM-500 has dimensions of 70mm X 50mm X 108mm (2.8 in X 2.0 in X 4.3 in). Both are olive drab in color. The fuze most often associated with these mines is the UANU-1 pressure fuze used in the TMA-1A and TMA-5 antitank mines. Due to the low metallic content (a metal foil and detonator capsule all weighing less than 1.5 g), this mine is difficult to detect with hand-held mine detectors. TM-500 shown.



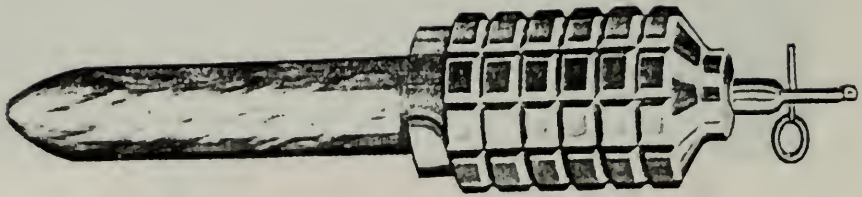


MT-4

The **MT-4** is a general-purpose demolition charge with a diameter of 94 mm (3.7 in) and a height of 500 mm (19.7 in). It is a cylindrical block of TNT with a nominal weight of 4,000 g (8.8 lb). The cardboard-cased demolition charge has two holes which run longitudinally through the body. These holes accept detonating cord without using other charges or detonators. Additionally, a threaded well at one end accepts a variety of standard fuzes or detonators. Depending upon the method of fuzing, the MT-4 may range from non-detectable (if initiated by a lead of detonating cord) to easily detectable.

Blast Lethal Mechanism - 200 or 500 g TNT





PMR-1 AND PMR-2

The **PMR-1** and **PMR-2** are stake mounted fragmentation antipersonnel mines. They have a diameter 80 mm (3.1 in) and a height of 120 mm (4.7 in). Both are usually olive drab in color and function with a trip-wire tension fuze with a sensitivity of 1.0 to 9.0 kg (2.2 - 19.9 lb) dependent on the condition of the fuze release pin. As the mine is stake-mounted with a trip-wire, primary detection is through visual means. The mine is readily detectable with hand-held detectors.

Fragmentation Lethal Mechanism - 75 g TNT



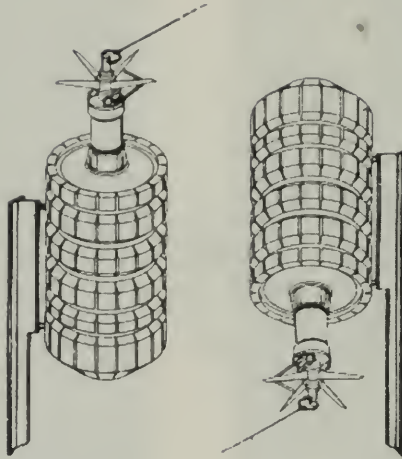


PMR-2A, -2AS

The **PMR-2A** and the **PMR-2AS** are stake-mounted fragmentation antipersonnel mines with nine rows of external serrations (pre-fragmentation). They have a diameter of 66 mm (2.6 in) and a body height of 140 mm (5.5 in). These mines differ only in the fuze used. The PMR-2 uses a trip-wire fuze, the PMR-2AS has been modified to accept a signal flare launcher on top of the trip-wire fuze. Sensitivity of the fuze is 3 kg (6.6 lb), but can vary depending on the condition of the release pin in the fuze. As the mine is stake-mounted with a trip-wire, primary detection is through visual means. The mine is readily detectable with hand-held detectors. The PMR-2A is judged one of the six most commonly encountered antipersonnel mines in Bosnia.

Fragmentation Lethal Mechanism - 100 g TNT



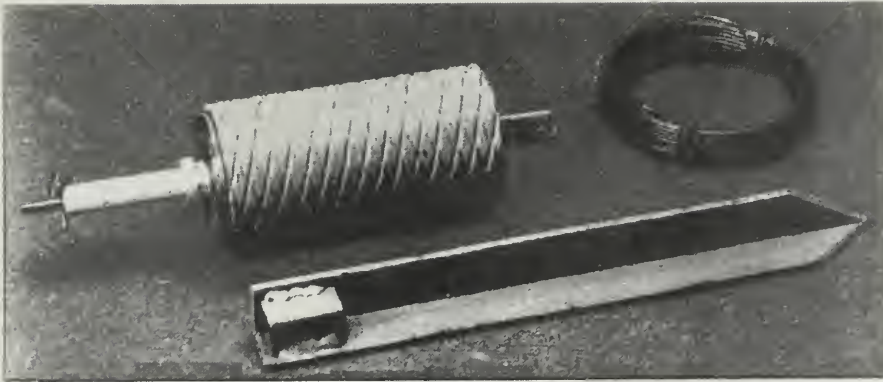


PMR-3

The **PMR-3** is a stake-mounted fragmentation antipersonnel mine with a diameter of 79 mm (3.1 in) and a height of 134 mm (5.3 in). This mine can be used with a pressure or trip-wire (radial - pull). The sensitivity of these fuzes range from 12 - 15 kg (26.4 - 33 lb) for pressure to 4 - 8 kg (8.8 - 17.6 lb) for trip-wire/pull. This mine can be placed in the ground or mounted on a stake with the fuze pointing up or down. Detectability is through visual means when stake mounted and hand-held mine detectors when placed in the ground.

Fragmentation Lethal Mechanism - 410 g TNT



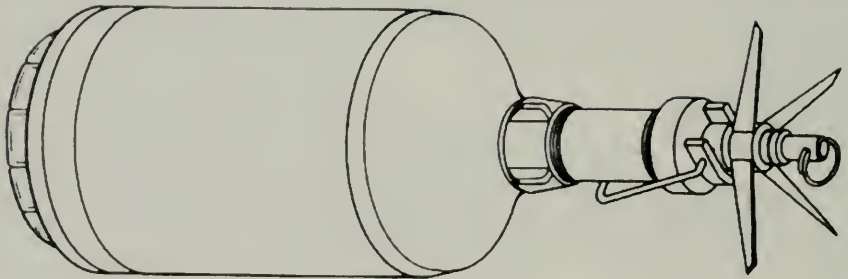


PPMP-2

The **PPMP-2** is a stake-mounted fragmentation antipersonnel mine with a diameter of 60 mm (2.4 in) and a height of 119 mm (4.7 in) without the stake. This mine can be used with a pressure or trip-wire (radial-pull). As the mine is stake-mounted with a trip-wire, primary detection is through visual means. The mine is readily detectable with hand-held detectors.

Fragmentation Lethal Mechanism - TNT





PROM-1

The **PROM-1** is a bounding fragmentation antipersonnel mine. It has a diameter of 75 mm (3 in) and a height of 260 mm (10.2 in - body with fuze). It uses a pressure or trip-wire fuze with a sensitivity of 9 kg (19.8 lb) for the pressure fuze and 3 kg (6.6 lb) for the trip-wire fuze. Detectability can be made through visual identification of the trip-wire or protruding assembly as well as with hand-held mine detectors. The PROM-1 is judged one of the six most commonly encountered antipersonnel mines in Bosnia.

Bounding Fragmentation Lethal Mechanism - 425 g TNT or TNT/RDX (50/50).



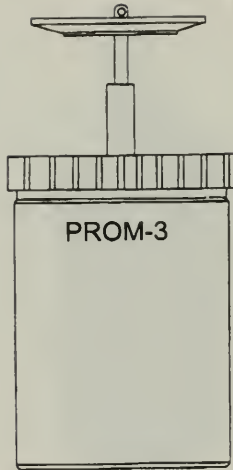


PROM-2

The **PROM-2** is a bounding antipersonnel fragmentation mine. It has a diameter of 85 mm (3.3 in) and a height of 200 mm (7.9 in). It uses a pressure/trip-wire fuze. The fuze reportedly uses trip-line sensors that are very sensitive. Detectability can be made through visual identification of the trip-wire or protruding fuze assembly. The mine is readily detectable with hand-held detectors.

Bounding Fragmentation Lethal Mechanism - TNT





PROM-3

The **PROM-3** is a bounding antipersonnel fragmentation mine. It has a diameter of 90 mm (3.54 in) and a height of 194 mm (7.64 in). The inner fragmentation sleeve is made up of steel fragments encased in plastic. The fuze functions on either pressure or pull (trip-wire). Detectability can be made through visual identification of the trip-wire or protruding fuze assembly. The mine is readily detectable with hand-held detectors.

Bounding Fragmentation Lethal Mechanism - Plastic Explosive





PSM-1

The **PSM-1** is a bounding fragmentation antipersonnel mine. It has a diameter of 73 mm (2.9 in) and a height of 250 mm (9.8 in). It is olive drab in color. It uses pressure, trip-wire, and electrical command fuzes. A unique three-pronged adapter permits attachment of three different fuzes simultaneously. Detectability can be made through visual identification of the trip-wire or protruding fuze assembly. The mine is readily detectable with hand-held detectors.

Bounding Fragmentation Lethal Mechanism - 175 g HEXOGEN





MRUD

The **MRUD** is a directional fragmentation (Claymore type) antipersonnel mine with a molded convex shape with dimensions of 231mm X 46mm X 89mm (9.1 in X 1.8 in X 3.5 in). It contains approximately 650 steel balls each with a 5.5 mm diameter. It uses trip-wire and command detonated fuzes. This mine may also be initiated by a segment of detonating cord with one end inserted into the detonator well and the other end connected to an AP mine. Visual detection should be stressed as the mine can be located in trees, on buildings, or at ground level. The MRUD is judged one of the six most commonly encountered antipersonnel mines in Bosnia.

Directed Fragmentation Lethal Mechanism - 900 g

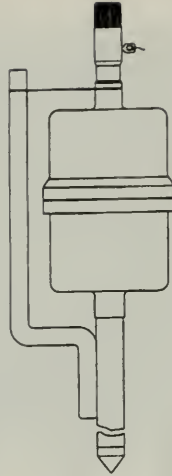




UDAR

The **UDAR** is a conceptual product involving a bounding fuel-air antipersonnel mine originally envisioned in two versions. The light version of the UDAR weighs 20 kg (44 lb) and contains 10 kg (22 lb) of fuel-air explosive. The heavy version weighs 40 kg (88 lb) and contains 20 kg of fuel-air explosive. This item may be available in Bosnia.



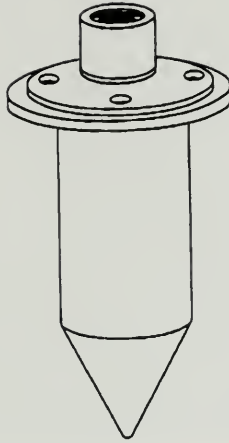


PPMR (JABLINKA MINE)

The **PPMR** also known as the **JABLINKA Mine** is a stake-mounted fragmentation antipersonnel mine with a diameter of 83 mm (3.27 in) and a body height of 130 mm (5.12 in). This mine has a plastic casing surrounding a mixture of concrete and steel balls (approximately 800). The main explosive charge is a centrally-located 1/4 block of TNT. It has an internally threaded protruding fuze well at the top and a hollow protrusion at the rear which allows it to be mounted to the stake. This locally fabricated mine is mounted on a section of steel reinforcing rod that is 254 to 381 mm (10 to 15 in) long. As the mine is stake-mounted with a trip-wire, primary detection is through visual means. The mine is readily detectable with hand-held detectors.

Fragmentation Lethal Mechanism - 113 g TNT





GORAZDE AP MINE

The **GORAZDE AP Mine** mine is a small black plastic antipersonnel mine with a diameter of 32 mm (1.25 in) and a length of 120 mm (4.7 in). The mine is closely patterned after the Canadian "Elsie" C3A1 mine including the use of a small shaped-charge lethal mechanism. Beyond its role as an antipersonnel mine, the GORAZDE antipersonnel mine doubles as the pressure fuze for the GORAZDE antitank mine. Due to the low-metallic content (striker, spring, and locking ball), this mine is difficult to detect with hand-held mine detectors.

Shaped-Charge Lethal Mechanism





MAT-76

The **MAT-76** is a Romanian antitank mine with a diameter of 320 mm (12.6 in) and olive in color. It uses a pressure initiated fuze; however, it can also accept any fuze compatible with former Soviet TM-62 and TM-72 mines. The fuze variant found in use in Bosnia is the P-62 pressure fuze. The mine is essentially caseless as the mine's body is a thin layer of fiberglass resin sprayed over the cast TNT explosive fill. The incorporation of any secondary fuze is accomplished by simply inserting an anti-handling device into the TNT body. Detectability varies based on the type of fuze used. While the P-62 fuze has minimal metallic content for an antitank mine (a heavy spring, two spring clips, a striker tip, and detonator), it is detectable with hand-held detectors.

Blast Lethal Mechanism - 9.51 kg TNT





TM-62

The **TM-62** is a series of antitank mines manufactured by the Former Soviet with a diameter of 320 mm (12.6 in) and a height of 102 mm (4.0 in) and olive drab in color. They all use delayed-armed, blast-resistant fuzes with primary initiation of pressure, magnetic-influence, and seismic influence. While the mine casing can be made of metal, plastic, wood, or caseless, the variant found in Bosnia is typically the completely non-metallic, plastic cased version equipped with the MVP-62 pressure fuze with minimal metallic components. Of the TM-62 series antitank mines and fuzes, the MVP-62 is the most difficult to detect. The mine is detectable with hand-held detectors.

Blast Lethal Mechanism - 6.5 kg TNT





TMD-1, -2, -2D

The **TMD-1**, **TMD-2**, and **TMD-2D** are wooden antitank box mines with dimensions of 320mm X 280mm X 140mm (12.6 in X 11 in X 5 in). They may be present from older stockpiles or fabricated in the field using one of several Former Yugoslav pressure fuzes. Detectability of these mines is possible with hand-held mine detectors due to the metallic content in the fuze plus nails within the wooden mine casing.

Blast Lethal Mechanism - 5.0 to 7.0 kg TNT



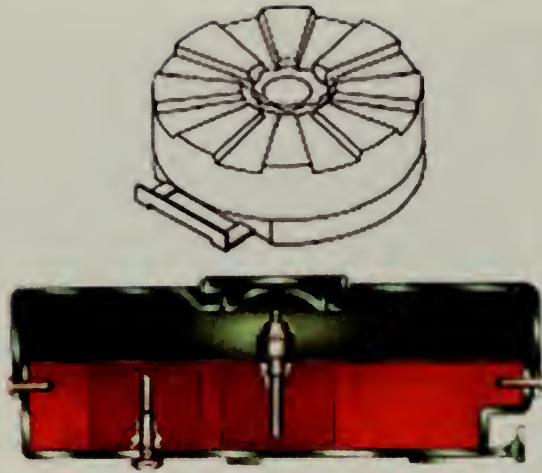


TMM-1

The **TMM-1** is a cylindrical antitank mine with a sheet steel body. It has a diameter of 326 mm (12.8 in) and a height of 90 mm (3.5 in). It uses a pressure-initiated fuze with a sensitivity of 130 kg (286 lb) with pressure plate and 70 kg (154.3 lb) without pressure plate. This mine is commonly surface laid on roads and was used extensively in road-blocks. A common antilift device uses a pull switch in a secondary fuze well tied by wire to a stake beneath the mine. The mine is detectable using hand-held mine detectors. The TMM-1 is judged one of the five most commonly encountered antitank mines in Bosnia.

Blast Lethal Mechanism - 5.6 kg TNT





TMA-1, -1A

The **TMA-1** and **TMA-1A** are plastic bodied antitank mines with a diameter of 315 mm (12.4 in) and a height of 100 mm (3.9 in). These mines use a single pressure-initiated fuze and contain a secondary fuze well on the bottom of the mine making antihandling devices possible. Because the UANU-1 fuzes have minimal metallic content (foil and detonator capsule weighing approximately 1.5 g), these mines are difficult to detect with hand-held mine detectors. The presence of antihandling devices may simplify detection of this mine by a hand-held detectors.

Blast Lethal Mechanism - 5.5 kg TNT





TMA-2, -2A

The **TMA-2** and **TMA-2A** are similar plastic antitank mines with dimensions of 260mm X 200mm X 140mm (10.2 in X 7.8 in X 5.5 in). These mines utilize two pressure fuzes with an overall sensitivity of 120 kg (264.5 lb). Antihandling devices are possible in this mine with secondary fuze wells located on the bottom of the mine. Additionally, these mines have been found boobytrapped using SuperQuick fuzes. When these mines are boobytrapped, the lid has been taken off, part of the explosive removed, and the SuperQuick fuze placed in the hollowed out portion of the mine. The lid is then replaced. This mine is difficult to detect with hand-held mine detectors (containing approximately 1.5 g of metal). The inclusion of antihandling devices may simplify detection of this mine with hand-held detectors.

Blast Lethal Mechanism - 5.5 kg TNT





TMA-3

The **TMA-3** is a non-metallic antitank mine with a diameter of 265 mm (10.4 in) and a height of 140 mm (5.5 in). It uses three exposed pressure-initiated fuzes each with a sensitivity of 180 kg (396.8 lb). The long detonator capsules in the three fuzes contribute to the mine's metallic content which is approximately 3.5 g. It is detectable with hand-held mine detectors. The inclusion of antihandling devices may simplify detection of this mine with hand-held detectors. The TMA-3 is judged one of the five most commonly encountered antitank mines in Bosnia.

Blast Lethal Mechanism - 6.5 kg TNT



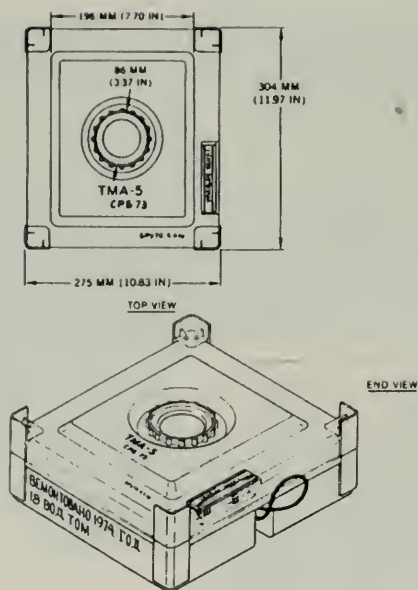


TMA-4

The **TMA-4** is a non-metallic antitank mine with a diameter of 208 mm (8.2 in) and a height of 110 mm (4.3 in). It uses three exposed pressure-initiated fuzes each with a sensitivity of 120 kg (264.5 lb). The short detonator capsules in the three fuzes contribute little to the mines metallic content which is approximately 1.5 g. It is difficult to detect with hand-held mine detectors. The inclusion of antihandling devices may simplify detection of this mine with hand-held detectors. The TMA-4 is judged one of the five most commonly encountered antitank mines in Bosnia.

Blast Lethal Mechanism - 5.5 kg TNT





TMA-5, -5A

The **TMA-5** and **TMA-5A** are non-metallic antitank mines with dimensions of 312mm X 275mm X 113mm (12.3 in X 10.8in X 4.4 in). These mines use a single pressure-initiated fuze with a sensitivity of 100 kg (220.4 lb). They are difficult to detect using hand-held mine detectors (containing approximately 1.5 g of metal). The inclusion of antihandling devices may simplify detection of this mine with hand-held detectors. The TMA-5 is judged one of the five most commonly encountered antitank mines in Bosnia.

Blast Lethal Mechanism - 5.5 kg TNT





TMRP-6

The **TMRP-6** is Former Yugoslav produced antitank mine with a diameter of 290 mm (11.3 in) and a height of 132 mm (5.2 in) without tilt-rod attachment. This mine can be initiated by pressure, tilt-rod, and command detonation. The sensitivity of the fuzes are 150 kg (330.6 lb) vertical force for pressure fuze and 1.3 kg (2.8 lb) lateral force for the tilt-rod. This mine can be emplaced horizontally for belly attack or vertically in a side attack role. A trip-wire can be attached to the tilt-rod for use against passing personnel and vehicles. Attempted removal of the fuze reportedly activates the mine's clearing charge. A recently developed magnetic fuze for this mine has not been employed in Bosnia. The mine is detectable through visual identification of the tilt-rod assembly, if used, and with hand-held mine detectors. The TMRP-6 is judged one of the five most commonly encountered antitank mines in Bosnia.

Plate-Charge Lethal Mechanism - 5.1 kg TNT



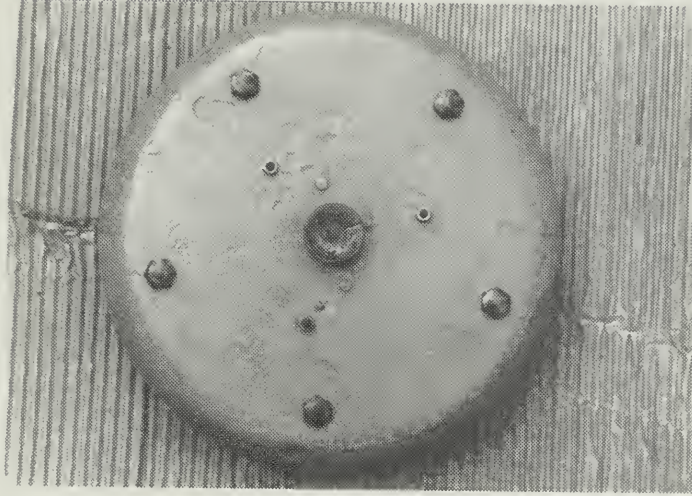


MC-71

The **MC-71** is a Romanian antitank mine with a diameter of 260 mm (10.2 in) and a height of 300 mm (11.8 in). It uses both pressure and tilt-rod fuzes to initiate the shaped-charge lethal mechanism. The mine is detectable through visual identification of the tilt-rod assembly, if used, and with hand-held mine detectors if buried.

Shaped-Charge Lethal Mechanism - 5.1 kg TNT



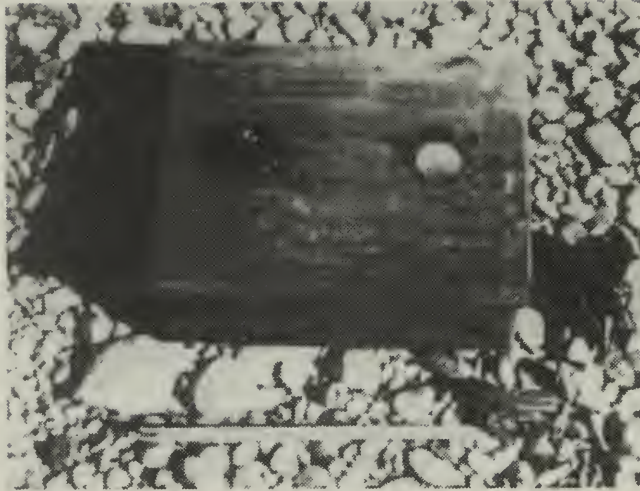


L.P.Z.MI

The **L.P.Z.MI** is a WWII light antitank mine. It has a diameter of 266 mm (10.5 in) and a height of 62 mm (2.4 in). This mine has a sheet steel case and brass supporting rods. It has been found in small numbers in theater where it was probably found in storage from WWII war stocks. This mine is easily detectable with hand-held mine detectors.

Blast Lethal Mechanism - 2.27 kg TNT





GORAZDE AT MINE

The **GORAZDE AT Mine** is a locally fabricated antitank mine with dimensions of 277mm X 225mm X 105mm (10.9 in X 8.9 in X 4.1 in). This mine uses two Gorazde AP mines as fuzes.

Blast Lethal Mechanism - TNT



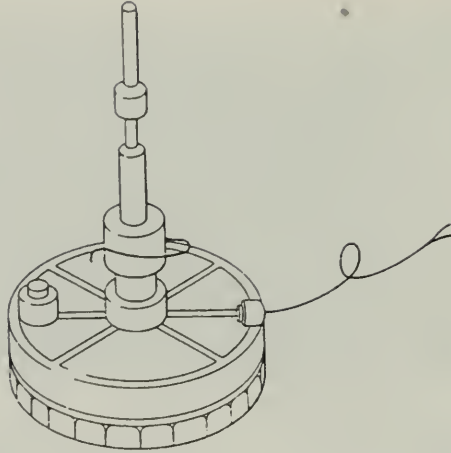


KB SCATTERABLE MINE

The **KB Scatterable Mine** is designed for employment from the 262 mm (12-rd) rocket launcher M87. The M87 fires an antitank mine-laying rocket which deploys 24 antitank mines each with a diameter of 116 mm (4.6 in). The mines are delay-armed and utilize a magnetic-influence fuze which senses changes in ambient magnetic fields. Use visual detection to identify these surface scatterable mines. Mine detectors may detonate this mine if used in close proximity. The KB scatterable mines have not been employed in Bosnia to date.

Shaped-Charge Lethal Mechanism

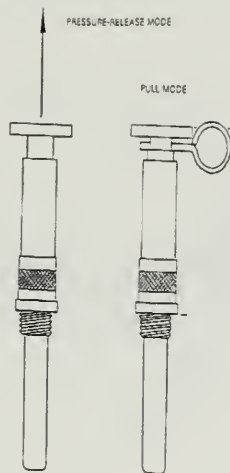




EMU-1

The **EMU-1** is an electromechanical device operating from a 4.6 v battery. It was originally designed as a mine/booby-trap device against railroad lines and other similar structures. The fuze mechanism is placed underneath railroad tracks and wired to a separate detonator attached to an explosive charge. The passing of the train causes vibrations in the railroad tracks, functioning the fuze, which electronically detonates the explosive charges. Modes of operation are Pressure, Pressure Release, and Pull/Tripwire.

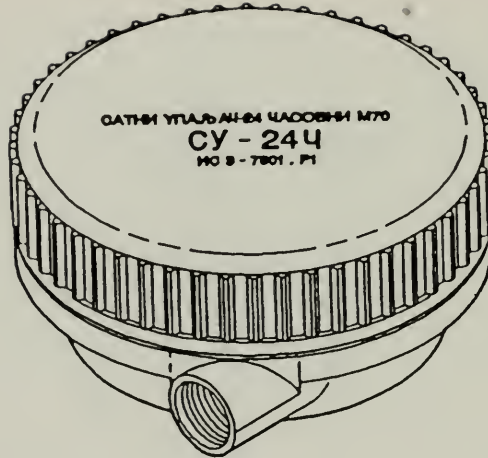




UMOP-1

The **UMOP-1** is an all-metal mechanical fuze for use with mines and demolitions blocks fitted with a standard fuze well. At one end of the cylindrical body is a disc shaped pressure plate retained by a safety pin. At the other end the tube is fitted with a stab-sensitive detonator assembly, sealed into position. Modes of operation are Pressure Release (load between 3.5 - 15 kg) (7.7-33 lb), and Pull/Tripwire (2 - 3.5 kg tension) (4.4-7.7 lb). The fuze can NOT be disarmed when employed in the pressure-release mode.

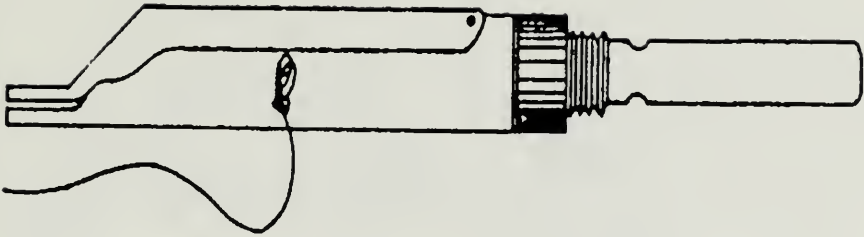




SU-10, -24, VSU-24 TIMED-DELAYED DEVICES

The **SU-10**, **SU-24**, and **VSU-24c** time-delay devices are fuzes intended to provide the user with a selectable detonation time up to 26 hours after activation. These clockwork fuzes are designed for demolitions and sabotage. The SU-10 and SU-24 are mechanical clockwork devices that provide a selectable delay time ranging from 15 minutes to 10 hours for the SU-10 and up to 24 hours for the SU-24. The VSU-24c has been reported to use either a mechanical or electrical timing mechanism with a delay time ranging to 26 hours. These devices can be used with a variety of explosives and possibly with some mines.

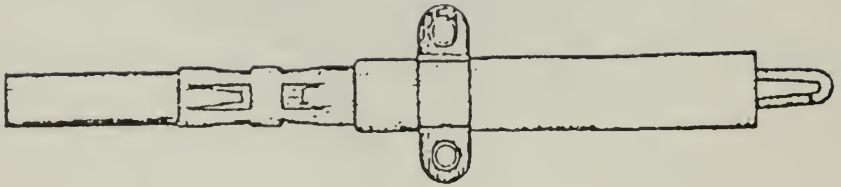




UDOP-1

The **UDOP-1** is a metallic, mechanically operated, pressure-release or trip-wire pull-activated fuze. In the trip-wire pull mode, the application of 1.0 to 9.0 kg (2.2 to 19.8 lb) will remove the striker retaining pin which frees the striker and safety spoon (if unrestricted), resulting in demolition. The fuze can operate in the pressure-release mode by applying a weight to hold the safety spoon in place after the retaining pin has been pulled. These fuzes can be used with various explosives.

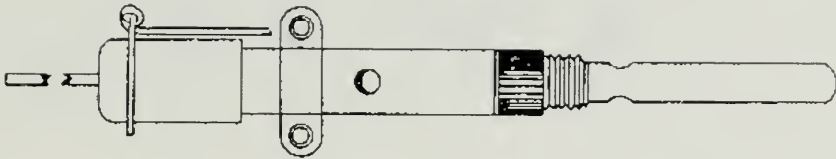




UDP-1

The **UDP-1** is an all metal mechanically operated, pull or trip-wire fuze with a cylindrical body to which two mounting eyes are attached.

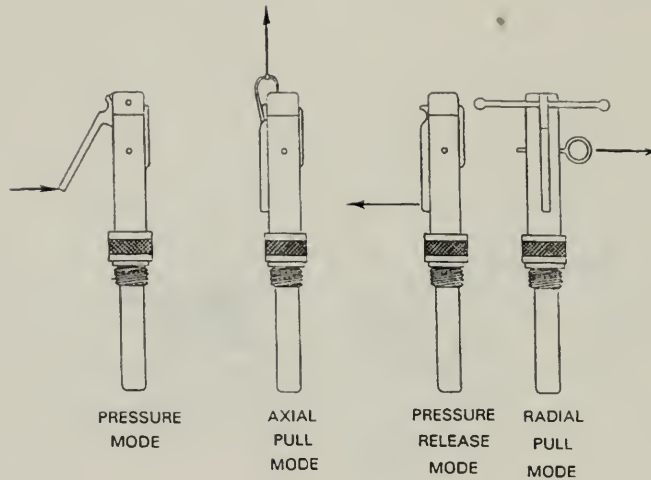




UDZ-1

The **UDZ-1** is a mechanical-pull fuze which requires a tension load applied along the longitudinal axis of the fuze. It probably requires 2 kg (4.4 lb) of tension to function. It has no arming-delay feature.

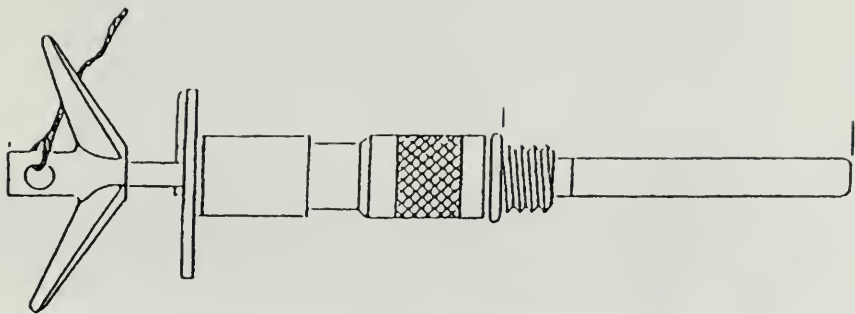




UMNOP-1

The **UMNOP-1** is a mechanically operated, pull or trip-wire activated fuze. In the trip-wire pull mode, the application of 2.0 to 3.4 kg (4.4 to 7.5 lb) of tension at right angles to the longitudinal axis of the fuze or 3.5 to 15.0 kg (7.7 to 33 lb) of pressure in the pressure release mode will cause the fuze to function. This fuze can NOT be disarmed when employed in the pressure-release mode. This fuze has no arming-delay feature





UMNP-1

THE **UMNP-1** is a mechanically operated, pull or trip-wire activated fuze. In the trip-wire pull mode, the application of 2.5 to 6.5 kg (5.5 to 14.3 lb) of tension applied to the combination pressure spider/tilt rod or 4.5 to 6.5 kg (9.9 to 14.3 lb) of pressure in the pressure release mode will cause the fuze to function. This fuze can NOT be disarmed when employed in the pressure-release mode. This fuze has no arming-delay feature. This fuze is also waterproof.

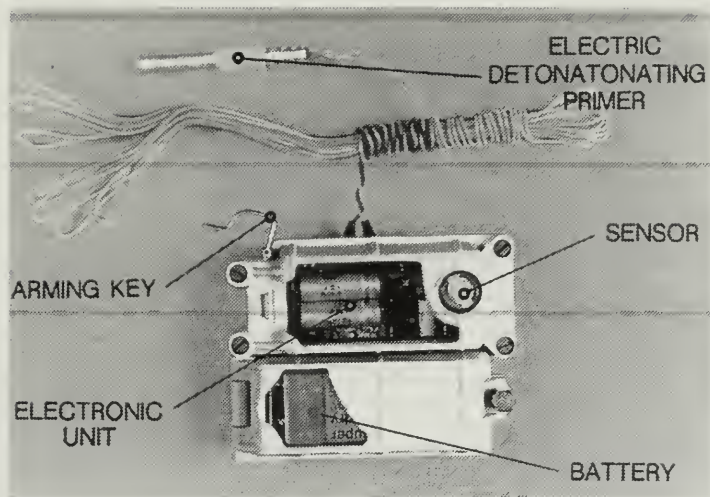




UMP-1, -2

The **UMP-1** and **UMP-2** are mechanically operated pull activated fuzes. The UMP-1 requires between 1.6 and 2.7 kg (3.5 and 5.9 lb) of tension applied along the longitudinal axis of the fuze. The UMP-2 requires between 2.0 and 6.0 kg (4.4 and 13.2 lb) of tension. These mines have no arming delay feature. They are waterproof.

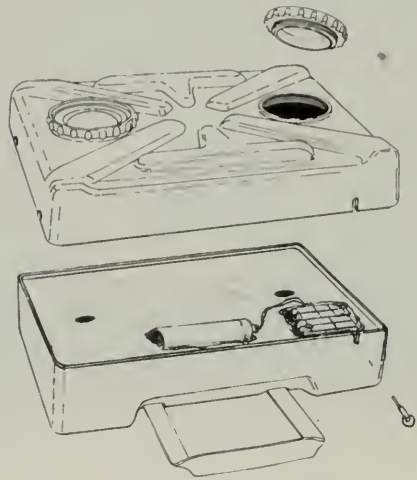




SUPERQUICK FUZES

SuperQuick Fuzes are used for booby traps, demolitions, sabotage, and diversionary actions. These fuzes consist of two separate modular sections. One module contains the detonator and fuze. The second contains the electronics module that activates the system. The manufactured and compatible components give the SuperQuick fuzes safety and flexibility not normally found in booby-trap devices. Eleven variations of nine types of fuzes are known to have been made in the Former Yugoslavia: the USV-T (Vibration), USA-T (Acoustic), USI-T (Inertia), USE-T (Time), USS-T (Lighting), UST-T (Thermal), UEPz or UEPZh or USE-PZh (Breakwire), USED-T (Improved Inertia) and USD-T (Tilt). These fuzes all have the same dimensions of 90mm X 70mm X 35mm (3.5 in X 2.8 in X 1.4 in). These fuzes all use a 9 V type 6f 22 battery.

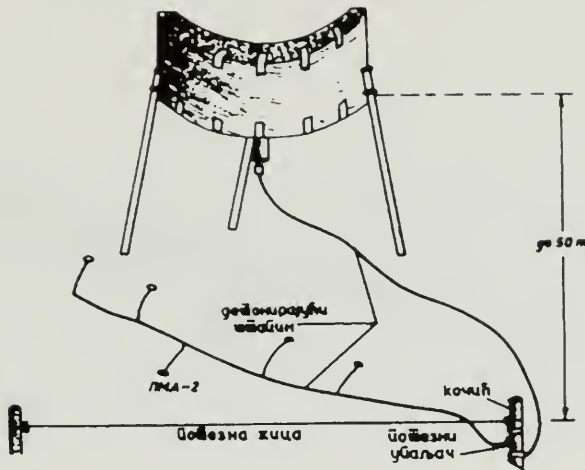




BOOBYTRAP USING SUPERQUICK FUZES

Two versions of the Superquick Fuze (tilt and breakwire) have been found incorporated inside a number of TMA-2 mines. Part of the TNT filling of the mine was cut out to allow placement of the Superquick fuze, electric detonator, and a TM-100 demolition charge. A small slot is cut in the top or side of the mine casing to allow for the delay arming. This is the only indication that the mine has been boobytrapped. Any SuperQuick fuze could easily be used in this or any other TMA-series mine.





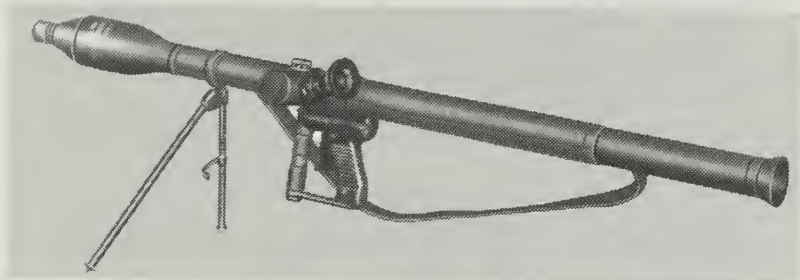
BOOBYTRAP USING MRUD IN OVERWATCH

A series of PMA-2 antipersonnel mines are laid, each connected with a lead of detonating cord. An MRUD is installed in overwatch of the small PMA-2 minefield. The approach to the mined area contains a trip-wire initiated device with detonating cord leads to both the MRUD and the PMA-2 mines. The resulting minefield presents a danger to personnel conducting either reconnaissance or mineclearing operations. In mineclearing operations, the boobytrapped PMA-2s will initiate the entire minefield, to include the MRUD, if any mines are blown in place.



SECTION 11

FWF INFANTRY WEAPONS AND NIGHT VISION DEVICES



44-mm M57 Antitank Grenade Launcher

The M57 grenade launcher is a handheld, recoilless, smoothbore, muzzle-loaded (reloadable), percussion fired, 44-mm antitank weapon. Only one type of service grenade is used with the M57 launcher: the fin-stabilized Model 57 HEAT round. A steel strip formed to fit the shoulder is welded to the bottom of launchers of recent manufacture to provide better aiming stability.

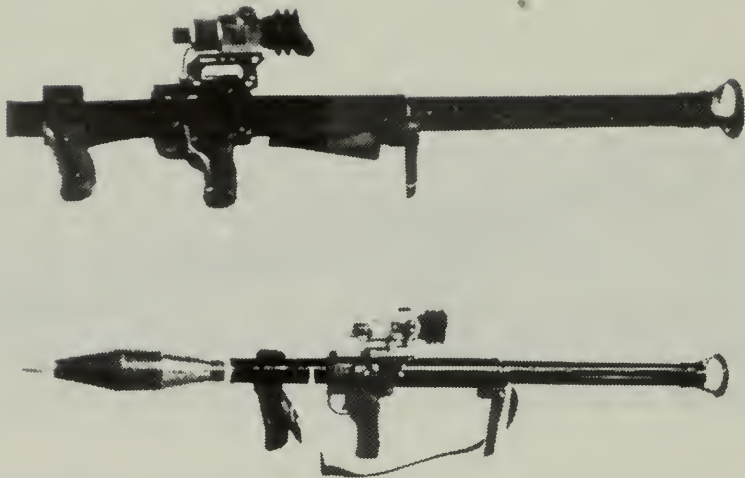
Recognition Features

- Steel cylinder open at both ends.
- Two notches cut in muzzle face.
- Breech end of barrel flared.
- Bipod attached to launcher barrel.

Technical Data

Ammunition type:	HEAT
Maximum effective range:	200 m
Rate of fire:	5 rd/min
Night vision equipment:	None
Penetration:	320-mm RHA





44-mm M80 Antitank Grenade Launcher

The M80 grenade launcher is a handheld, recoilless, smoothbore, muzzle-loaded (reloadable), percussion-fired, 44-mm antitank weapon similar to the M57.

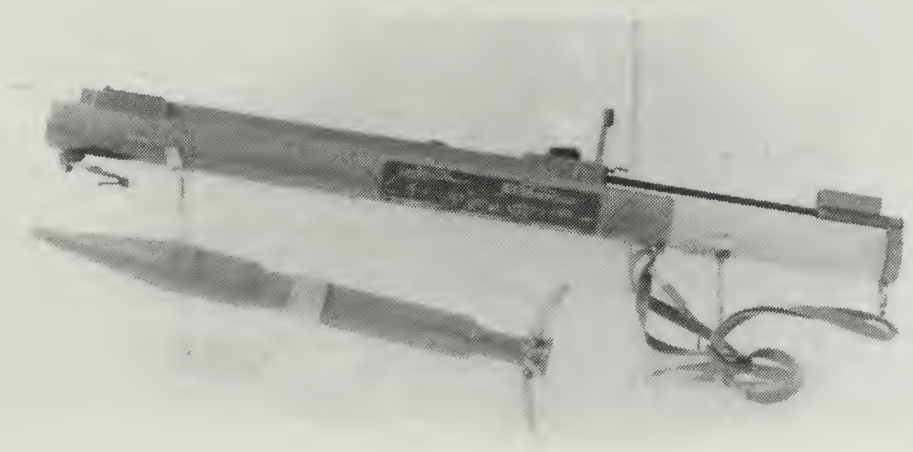
Recognition Features

- Breech end of barrel is flared.
- Shoulder rest, front handgrip, and pistol grip on bottom of barrel.

Technical Data

Ammunition type:	HEAT
Maximum effective range:	400 m
Rate of fire:	5 rd/min
Night vision equipment:	None
Penetration:	400-mm RHA





64-mm RBR M80 Rocket Launcher

The RBR M80 is a single-shot, disposable, 64-mm antitank rocket launcher.

Recognition Features

- Telescoping launch tube.
- Firing instruction decal on launch tube.
- Prepacked rocket.

Technical Data

Ammunition type:	HEAT
Maximum effective range:	250 m
Night vision equipment:	None
Penetration:	300-mm RHA





67-mm Armbrust Antitank Weapon (Germany)

The Armbrust antitank system is a manportable, shoulder-fired, disposable weapon with low signature and low IR detectability and can be safely fired from small enclosed rooms.

Recognition Features

- Forward end of tube has a perforated threaded ring.
- Protective cap on rear end.
- Steel alloy straight-launch tube.
- Attached to the tube are a carrying handle, a shoulder stock, a pistol grip trigger assembly with safety device, a folding reflex sight system, a cheek rest, and a carrying case.

Technical Data

Ammunition type:	HEAT, HE
Maximum effective range:	300 m
Night vision equipment:	None
Penetration:	300-mm RHA





72-mm RPG-22 Antitank Rocket Launcher (Russia)

The RPG-22 is a scaled-up version of the RPG-18. The weapon is shoulder-fired and disposable.

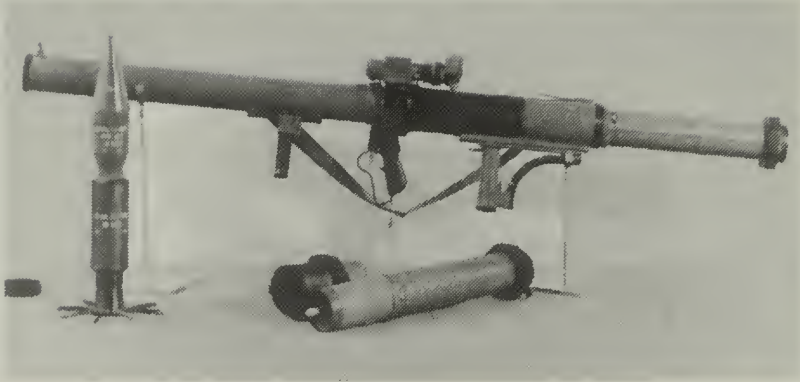
Recognition Features

- Launch tube is painted olive drab and black, with black markings and an instruction decal on one side.
- Webbed shoulder sling attached to the tube.
- Black plastic extension on forward end of tube.

Technical Data

Ammunition type:	HEAT
Maximum effective range:	250 m
Rate of fire:	NA (disposable)
Night vision equipment:	None
Penetration:	390-mm RHA





90-mm RBR M79 Antitank Rocket Launcher

The RBR M79 rocket launcher is reloadable and shoulder-fired; it is loaded by coupling a prepacked rocket to the rear end of the launch tube, which is removed and discarded after firing.

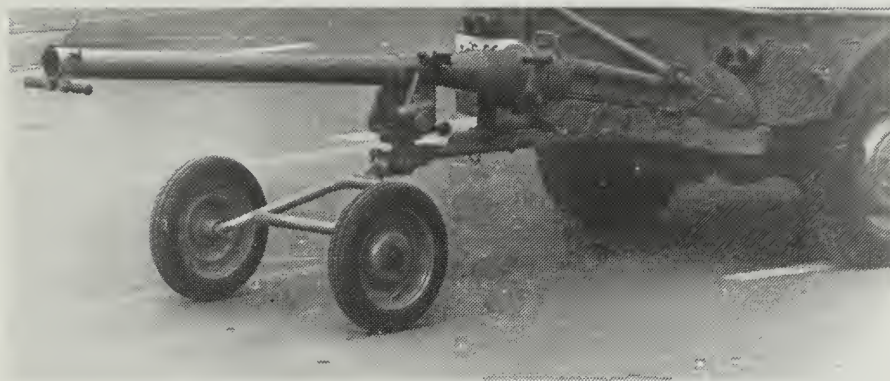
Recognition Features

- Adjustable shoulder rest.
- Firing mechanism is a trigger-actuated magneto type.
- Retractable foregrip.
- Carrying sling is attached.

Technical Data

Ammunition type:	HEAT
Maximum effective range:	350 m
Rate of fire:	5 rd/min
Night vision equipment:	none
Penetration:	400-mm RHA





82-mm M60 and M60A Recoilless Guns

The M60 is a manually operated, single-shot, smoothbore, breech-loaded 82-mm recoilless gun mounted on a two-wheeled carriage. It can be towed behind a jeep-like vehicle or dragged into position by hand.

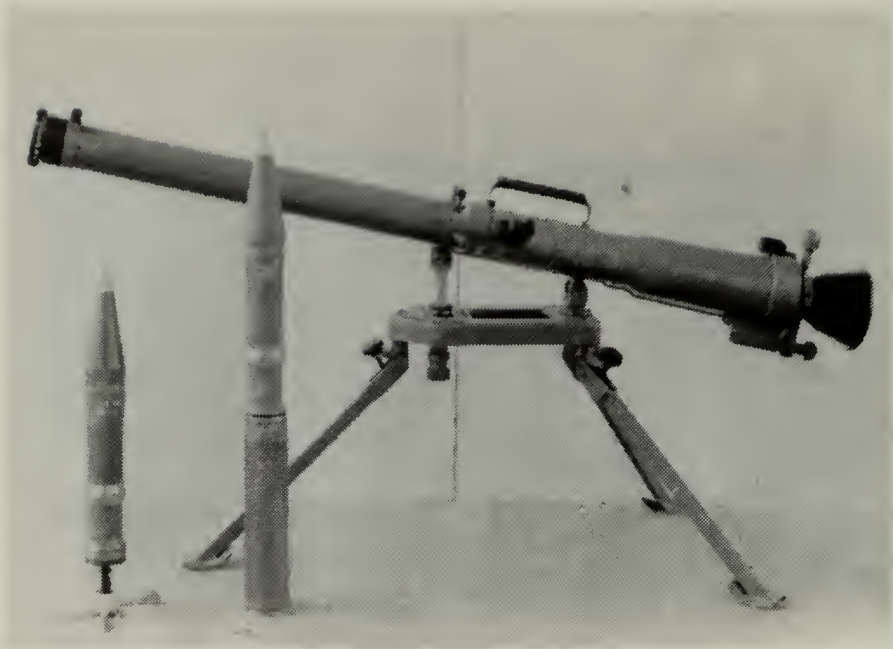
Recognition Features

- One-piece steel tube.
- Handle on cone-shaped venturi.
- Trigger located in traversing handle.
- Muzzle collar screws to tube to hold towing handles and front iron sights.

Technical Data

Ammunition type:	HEAT
Maximum effective range:	1,000 m (moving target); 1,500 m (stationary target)
Rate of fire:	4 rd/min
Night vision equipment:	unknown
Penetration:	220-mm RHA





82-mm M79 Recoilless Gun

The M79 is a lightweight, manportable, breech-loaded antitank weapon. Served by a two-man crew, the M79 can be fired from the shoulder or a tripod.

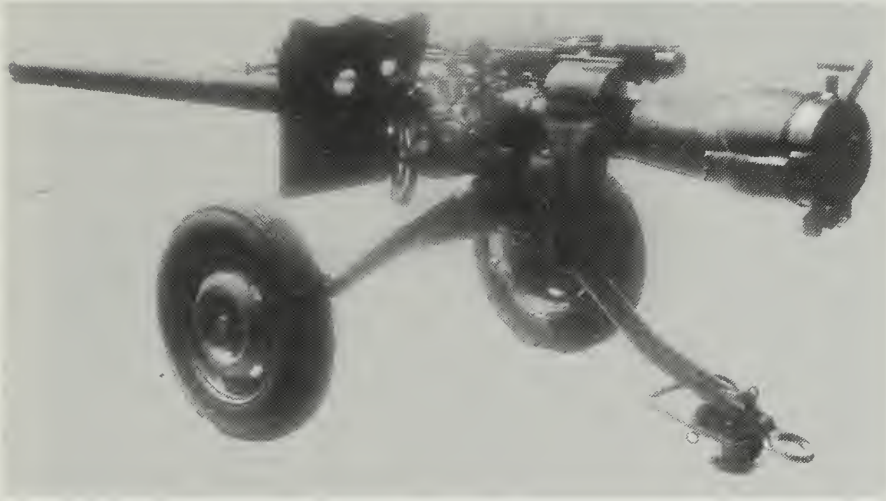
Recognition Features

- Tripod with elevating and traversing mechanism.
- Single venturi at rear of breechblock.
- Carrying handle on top of tube.

Technical Data

Ammunition type:	HEAT, HE-Frag
Maximum effective range:	670 m
Rate of fire:	unknown
Night vision equipment:	unknown
Penetration:	350-mm RHA (HEAT)





105-mm M65 Recoilless Rifle

The 105-mm M65 is a single-shot, breech-loaded weapon mounted on a two-wheel tripod carriage. It has a spotting rifle and is served by a crew of three to five.

Recognition Features

- UB 12.7-mm machinegun mounted on right side.
- Carriage has fixed lunette on rear leg and nonadjustable front legs.
- Large traversing handwheel for rapid traversing.
- Small shield on left side.

Technical Data

Ammunition type:	HEAT
Maximum effective range:	600 m
Rate of fire:	6 rd/min
Night vision equipment:	yes, panoramic telescope
Penetration:	330-mm RHA





120-mm RBR Hornet Rocket Launcher

The Hornet is a single-shot, disposable, 120-mm antitank rocket launcher designed to defeat modern main battle tanks. The launch tube contains the firing mechanism and optical sight.

Recognition Features

- Protective foam end caps.
- Fixed, vertical shoulder rest.
- Handgrip rail behind trigger assembly.
- Fixed iron sights on top of launch tube.

Technical Data

Ammunition type:	HEAT
Maximum effective range:	400 m
Rate of fire:	NA (disposable)
Night vision equipment:	unknown
Penetration:	>700-mm RHA





Passive Individual Weapon Sight, Model PN 5x80

Range: 600 m personnel; 1.8 km vehicles

The passive night sight model PN 5x80 was first observed in the former Yugoslavia in 1978. The PN 5x80 was observed again in 1981, mounted on the M73 sniper rifle. The PN 5x80 is used for night observation and small-arms firing. The sight uses a three-stage intensifier coupled with fiber optics and has a bright-source protection feature that turns the intensifier off in periods of excess illumination. As soon as the operating light level is regained, the device turns on automatically.



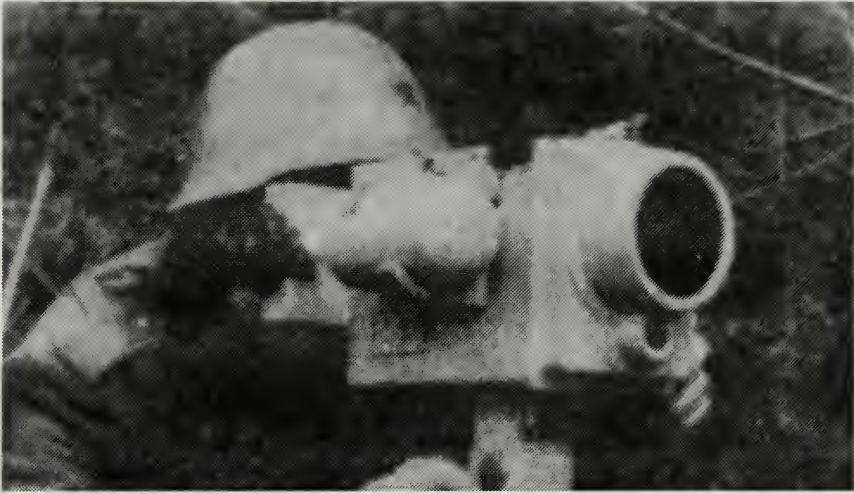


Passive Binoculars Model PRD 4x80

Range: 500 m personnel; 1.5 km vehicles

The model PRD 4x80 binoculars are used for night observation and surveillance. The PRD 4x80 uses a two-stage intensifier coupled with fiber optics and has a bright source protection feature that turns the intensifier off in periods of excess illumination. As soon as the operating light level is regained, the device turns on automatically.





Thermal Imaging System Model TS-M

Range (of a moving tank):

Detection	3,000 m
Recognition	1,800 m

The model TS-M thermal imaging system is for use with the AT-3 antitank guided missile and for general observation and surveillance. The system is tripod-mounted and can be rotated $\pm 30^\circ$ and $\pm 5^\circ$ in elevation. Less than 2 minutes are required for the infrared detector to become operational and it can be used for a maximum of 2 hours with a single set of batteries and 1 bottle of compressed air for cooling. The image is displayed on a cathode ray tube (CRT), which is viewed through an eyepiece.



SECTION 12

RANK INSIGNIA AND UNIFORMS

NEW BiH ARMY RANKS



PRIVATE
FIRST CLASS



CORPORAL



SERGEANT



STAFF
SERGEANT



SERGEANT
FIRST CLASS



FIRST
SERGEANT



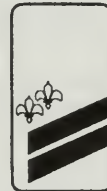
SERGEANT
MAJOR



REGIMENTAL
SERGEANT
MAJOR



SECOND
LIEUTENANT



LIEUTENANT



CAPTAIN



SENIOR
CAPTAIN



MAJOR



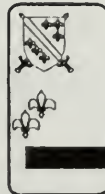
LIEUTENANT
COLONEL



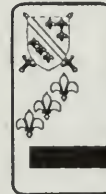
COLONEL



BRIGADIER
GENERAL

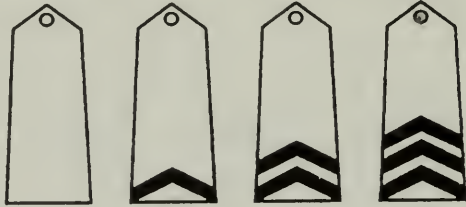


DIVISION
GENERAL

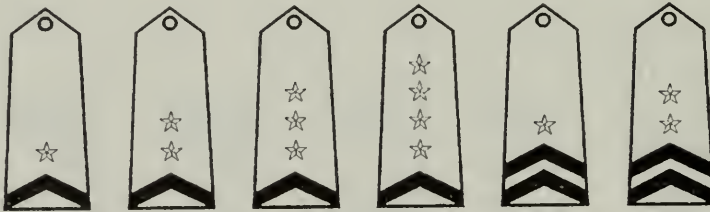


GENERAL
OF THE
ARMY

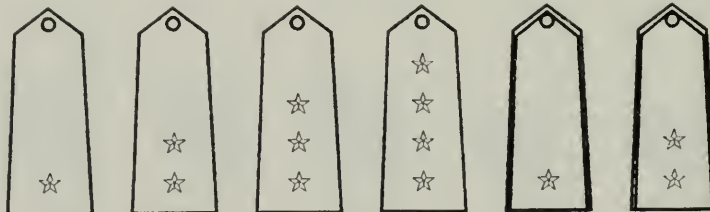
NEW VJ/BOSNIAN-SERB SHOULDER BOARDS



PRIVATE SENIOR PRIVATE LANCE CORPORAL CORPORAL



JUNIOR SERGEANT SERGEANT JUNIOR STAFF SERGEANT STAFF SERGEANT WARRANT OFFICER 1 WARRANT OFFICER 2



SECOND LIEUTENANT LIEUTENANT CAPTAIN SENIOR CAPTAIN MAJOR LIEUTENANT COLONEL



COLONEL MAJOR GENERAL LIEUTENANT COLONEL GENERAL COLONEL GENERAL ARMY GENERAL

CROATIAN ARMY RANK BADGES



PRIVATE



PRIVATE
FIRST CLASS



LANCE
CORPORAL



CORPORAL



STAFF
CORPORAL



SERGEANT



STAFF
SERGEANT



WARRANT
OFFICER



SUB-LIEUTENANT



LIEUTENANT



SENIOR
LIEUTENANT



CAPTAIN



MAJOR



COLONEL



BRIGADIER



MAJOR
GENERAL



COLONEL
GENERAL



GENERAL

NEW VJ/BOSNIAN-SERB JACKET RANKS



PRIVATE



SENIOR PRIVATE



LANCE CORPORAL



CORPORAL



JUNIOR SERGEANT



SERGEANT



JUNIOR STAFF SERGEANT



STAFF SERGEANT



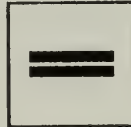
WARRANT OFFICER 2



WARRANT OFFICER 1



SECOND LIEUTENANT



LIEUTENANT



CAPTAIN



SENIOR CAPTAIN



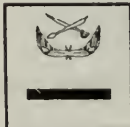
MAJOR



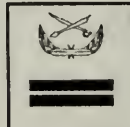
LIEUTENANT COLONEL



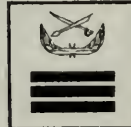
COLONEL



MAJOR GENERAL



LIEUTENANT COLONEL GENERAL



COLONEL GENERAL



ARMY GENERAL

Federal Republic of Yugoslavia



Federation of Yugoslavia army badge. Worn by all JA members.



National Flag

Similar to the old flag of the original socialist federal state with star removed.

Insignia on Caps and Berets of Members of the Ground Forces



GENERAL



OFFICER



NON-COMMISSIONED
OFFICER



SOLDIER

Insignia on Caps and Berets of Air Force and Air Defense Members



GENERAL



OFFICER



NON-COMMISSIONED
OFFICER



SOLDIER

Republic of Serbian Krajina (RSK)

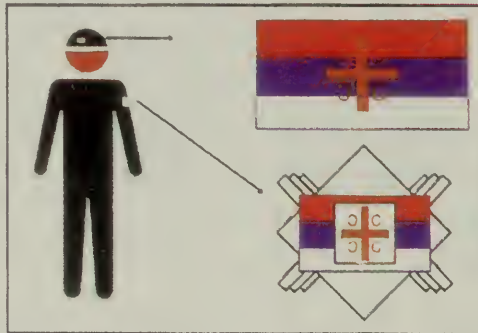


National Flag



The "Oclima" denotes SERB
 C=S in Cyrillic
 SSSS = Only Unity Saves The Serb

Army of Republic of the Serbian Krajina (ARSK)



Republic of Croatia



National Flag

Croatian Army (HV)



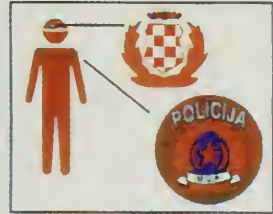
Bosnian Muslim Militia



Bosnian Muslim Militia



Muslim Militia



Bosnian Military Police

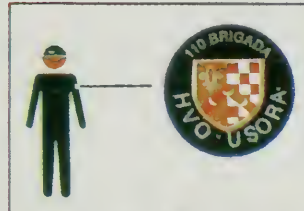
Bosnian Croat Defense Council HVO



Bosnian Croat Flag

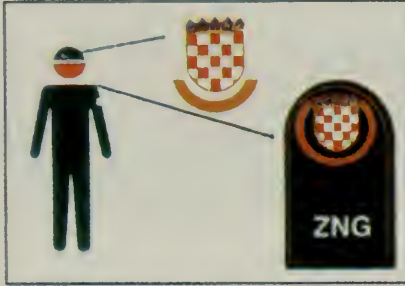


Bosnian Croatian Defense Council-HVO

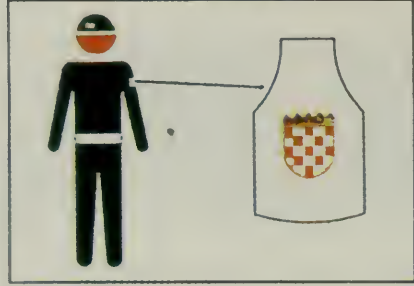


Bosnian Croatian Defense Council-HVO

Croatian National Guard



Croatian Army Military police



Various HV Patches and Emblems



1 (TIGER) BDE ZNG



4 BDE ZNG



114 BDE HV



AIR DEFENSE

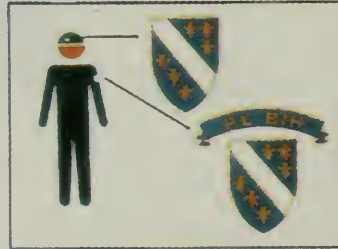
BOSNIA REGION

Bosnia-Herzegovina (BiH)

National Flag



Bosnian Defense Force



Bosnian Serbian Army (VRS)



ALBANIA

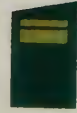
No Rank
Available



Field Uniform

ARGENTINA

ENLISTED



3/



BASIC PRIVATE

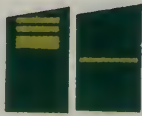
PRIVATE

PRIVATE 1ST CLASS

CORPORAL

SERGEANT

STAFF SERGEANT

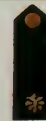


SERGEANT 1ST CLASS MASTER SERGEANT

FIRST SERGEANT SERGEANT MAJOR

COMMAND SGT MAJOR SGT MAJOR OF THE ARMY

OFFICER



2D LIEUTENANT

1ST LIEUTENANT

CAPTAIN

MAJOR



LT COLONEL

COLONEL

BRIGADIER GENERAL

MAJOR GENERAL

LT GENERAL

GENERAL

GENERAL OF THE ARMY



Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

AUSTRIA

Rank	Shoulder Insignia	Collar Insignia	Chest Insignia	Chest Insignia	Chest Insignia	Chest Insignia	Chest Insignia	Chest Insignia	Chest Insignia	Chest Insignia
Private										
Enlisted Personnel										
Noncommissioned Officers (NCOs)										
Field Grade Officers										
Staff Officers										
Generals										

Field Uniform



BANGLADESH



2D LIEUTENANT LIEUTENANT CAPTAIN MAJOR LIEUTENANT COLONEL COLONEL BRIGADIER MAJOR GENERAL LIEUTENANT GENERAL GENERAL FIELD MARSHAL



NO INSIGNIA PRIVATE PRIVATE 1ST CLASS CORPORAL SERGEANT STAFF SERGEANT SERGEANT 1ST CLASS MASTER SERGEANT SERGEANT MAJOR

Field Uniform



BELGIUM

ENLISTED

3	1/						
3							
		BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT-MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY		

OFFICER

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR			
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

Field Uniform

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

BULGARIA

ENLISTED

1					
BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT
					
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT			

OFFICER

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR		
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL
					GENERAL OF THE ARMY

Field Uniform

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

CANADA

ENLISTED

1/					1/	
3/						
BASIC PRIVATE		PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT
  			     			
SERGEANT 1ST CLASS		MASTER SERGEANT	FIRST SERGEANT	SERGEANT MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY



Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

OFFICER			
			
2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR
			
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL
			1/
LT GENERAL	GENERAL	GENERAL OF THE ARMY	

CZECH REPUBLIC

ENLISTED

	BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT

<table border="0"> <tr> <td> SERGEANT 1ST CLASS </td> <td> MASTER SERGEANT </td> </tr> </table>	 SERGEANT 1ST CLASS	 MASTER SERGEANT	<table border="0"> <tr> <td> FIRST SERGEANT </td> <td> SERGEANT- MAJOR </td> </tr> </table>	 FIRST SERGEANT	 SERGEANT- MAJOR	<table border="0"> <tr> <td> COMMAND SGT MAJOR </td> <td> SGT MAJOR OF THE ARMY </td> </tr> </table>	 COMMAND SGT MAJOR	 SGT MAJOR OF THE ARMY
 SERGEANT 1ST CLASS	 MASTER SERGEANT							
 FIRST SERGEANT	 SERGEANT- MAJOR							
 COMMAND SGT MAJOR	 SGT MAJOR OF THE ARMY							



OFFICER

Field Uniform

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR			
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

NOTE:
RANK WORN ON RIGHT BREAST POCKET

- | | |
|--|--|
| 1. NO RANK | 3. NO INSIGNIA |
| 2. INVERTED STRIPE
INDICATES QUALIFIED
FOR PROMOTION | 4. GOLD STRIPES INDICATE
12 OR MORE YEARS OF
SERVICE |

DENMARK

ENLISTED

						1
1						
BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT	

SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	
SGT MAJOR	SGT MAJOR OF THE ARMY		



OFFICER










2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL
LT GENERAL	GENERAL	GENERAL OF THE ARMY	GENERAL OF THE ARMY

Field Uniform

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

EGYPT

ENLISTED

1/		1/			
3/					
BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT

	1/	1/
		
		
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT
SERGEANT- MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY



Field Uniform

OFFICER

			
			
2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR
			
			
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

		
		
LT GENERAL	GENERAL	GENERAL OF THE ARMY

ESTONIA

ENLISTED

1/						
2/						
BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT	
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT-MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY	



Field Uniform

OFFICER

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR	LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

FINLAND

					
General, G.S.	Lieutenant General, G.S.	Major General, G.S.	Colonel, Engineer	Lieutenant Colonel, Logistics	Major, Light Infantry (Jaeger)
					
Captain, Coast Artillery	Senior Lieutenant, Air Force	Lieutenant, Infantry	Second Lieutenant, AA Artillery	Cadet	Chaplain
					
Colonel (Vet.), Infantry	Lieutenant Colonel (Eng.) Electrotechnical Branch	Major (M.C.), Military Hospitals	Captain (Tech.), Topog Serv	Senior Lieutenant (Fin.), Logistics	Lieutenant (Music), Military Bands
					
Lieutenant (Pharm.), Military Hospitals	Military Officer, Signal Troops (Fin Branch)	Chief Warrant Officer Air Force	Master Warrant Officer Frontier Guard	Warrant Officer Guard Battalion	Staff Sergeant, Field Artillery
					
Sergeant, Anti-tank Defence	Corporal, Home Cavalry Battalion Home Regiment	Jaeger, Sports School/Home Regiment			
					
Institute Officer Student, National Defence Institute	Dragon, National Defence Institute	Reserve Officer Cavalry Engineer			
				<h2>Field Uniform</h2>	
Officer Student, Reserve Officer School	Lance Corporal, Signal Troops	Entistee, Armour	Jaeger, Infantry		

FRANCE

ENLISTED

1/						
2/						
	BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT
1/						
	SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT-MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY

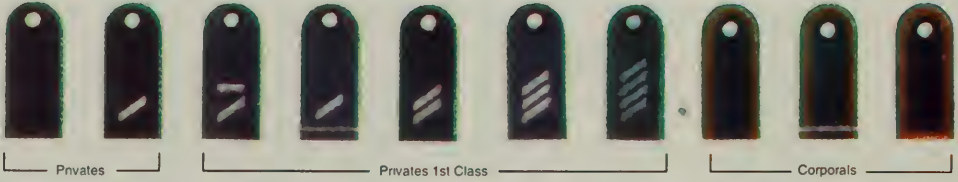
OFFICER

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR	<p>1. NO RANK 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION</p> <p>3. NO INSIGNIA 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE</p>		
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE



















GERMANY



Field Uniform

GREECE

ENLISTED



3						
3						
	BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT
	1					
						
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT-MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY	



Field Uniform

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

OFFICER

						
2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR			
						1
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

HUNGARY

GENERAL OFFICERS RANK INSIGNIA



BRIGADIER



MAJOR GENERAL



LIEUTENANT GENERAL



COLONEL GENERAL

SENIOR OFFICERS RANK INSIGNIA



MAJOR



LIEUTENANT COLONEL



COLONEL

OFFICERS RANK INSIGNIA



2ND LIEUTENANT



LIEUTENANT



CAPTAIN

WARRANT OFFICERS RANK INSIGNIA



WARRANT OFFICER



SENIOR WARRANT OFFICER



CHIEF WARRANT OFFICER

NON-COMMISSIONED OFFICERS RANK INSIGNIA



SERGEANT



STAFF SERGEANT



SERGEANT FIRST CLASS

ENLISTED JUNIOR NCO RANK INSIGNIA



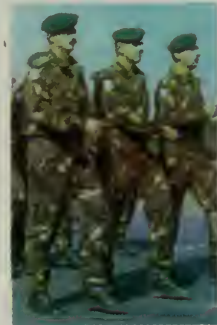
LANCE CORPORAL



CORPORAL






















LANCE SERGEANT



Field Uniform

INDONESIA

ENLISTED

 PRAJURIT DUA	 PRAJURIT SATU	 KOPRAL DUA	 KOPRAL SATU	1	 SERSAN DUA	
2	 BASIC PRIVATE	 PRIVATE	 PRIVATE 1ST CLASS	 CORPORAL	 SERGEANT	 STAFF SERGEANT
 SERSAN SATU	 SERSAN KEPALA	 SERSAN MAJOR				
 SERGEANT 1ST CLASS	 MASTER SERGEANT	 FIRST SERGEANT	 SERGEANT- MAJOR	 COMMAND SGT MAJOR	 SGT MAJOR OF THE ARMY	

OFFICER

 LETNAM	 LETNAM SATU	 KAPTEN	 MAJOR			
 2D LIEUTENANT	 1ST LIEUTENANT	 CAPTAIN	 MAJOR			
 LETNAN KOLONEL	 KOLONEL	 BRIGADIR JENDERAL	 MAJOR JENDERAL	 LETNAN JENDERAL	 JENDERAL	
 LT COLONEL	 COLONEL	 BRIGADIER GENERAL	 MAJOR GENERAL	 LT GENERAL	 GENERAL	 GENERAL OF THE ARMY



Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

ITALY

ENLISTED

BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT

SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT MAJOR	COMMAND SGT MAJOR
				SGT MAJOR OF THE ARMY



ITALY

Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

OFFICER							
							WARTIME RANK INSIGNIA NOT KNOWN
2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR				
							GENERAL OF THE ARMY
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL		

JORDAN

ENLISTED

BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT

SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY

No Uniform Available

OFFICER

--	--	--	--

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR

Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

--	--	--	--	--	--	--

LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

LATVIA

No Rank
Available



Field Uniform

LITHUANIA



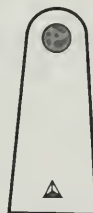
PRIVATE



CADET



CORPORAL



JUNIOR
SERGEANT



SERGEANT



CHIEF
SERGEANT



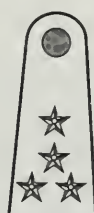
JUNIOR
LIEUTENANT



LIEUTENANT



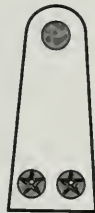
SENIOR
LIEUTENANT



CAPTAIN



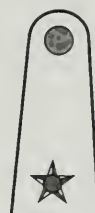
MAJOR



COLONEL
LIEUTENANT



COLONEL



GENERAL

Field Uniform



LUXEMBOURG

ENLISTED

3						
17						

BASIC PRIVATE

PRIVATE

PRIVATE 1ST CLASS

CORPORAL

SERGEANT

STAFF SERGEANT

SERGEANT 1ST CLASS

MASTER SERGEANT

FIRST SERGEANT

SERGEANT MAJOR

COMMAND SGT MAJOR

SGT MAJOR OF THE ARMY



Field Uniform

OFFICER

2D LIEUTENANT

1ST LIEUTENANT

CAPTAIN

MAJOR

LT COLONEL

COLONEL

BRIGADIER GENERAL

MAJOR GENERAL

LT GENERAL














GENERAL

GENERAL OF THE ARMY













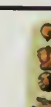








- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

MALAYSIA

ENLISTED

3/	3/	 LANCE CORPORAL	 CORPORAL	 SERGEANT	 STAFF SERGEANT	
3/	 BASIC PRIVATE	 PRIVATE	 PRIVATE 1ST CLASS	 CORPORAL	 SERGEANT	 STAFF SERGEANT
1/	1/	 WARRANT OFFICER CLASS 1				
 SERGEANT 1ST CLASS	 MASTER SERGEANT	 FIRST SERGEANT	 SERGEANT MAJOR			 COMMAND SGT MAJOR

OFFICER

















 LEFTENAN MUDA	 LEFTENAN		 MEJAR			
 2D LIEUTENANT	 1ST LIEUTENANT	 CAPTAIN	 MAJOR			
 LEFTENAN KOLONEL	 KOLONEL	 BRIGADIER JENDERAL	 MEJAR JENDERAL	 LEFTENAN JENDERAL	 JENDERAL	 FIELD MARSHALL
 LT COLONEL	 COLONEL	 BRIGADIER GENERAL	 MAJOR GENERAL	 LT GENERAL	 GENERAL	 GENERAL OF THE ARMY

Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

MOROCCO

ENLISTED

					
3					
BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT
					
					
SERGEANT 1ST CLASS	MASTER SERGEANT	WARRANT OFFICER	CHIEF WARRANT OFFICER		

OFFICER











						
						
2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR			
						
						
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY


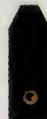






Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE


NETHERLANDS

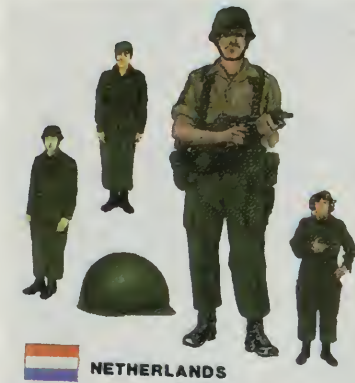
ENLISTED

3/					
2/					
BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT

					
					
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT-MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY

OFFICER

						
2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR			
						
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY



Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

NEW ZEALAND

ENLISTED

3/	 LANCE CORPORAL	1/	 CORPORAL	 SERGEANT	 STAFF SERGEANT	
3/	 BASIC PRIVATE	 PRIVATE	 PRIVATE 1ST CLASS	 CORPORAL	 SERGEANT	 STAFF SERGEANT
 WARRANT OFFICER CLASS II	 WARRANT OFFICER CLASS I	1/				
 SERGEANT 1ST CLASS	 MASTER SERGEANT	 FIRST SERGEANT	 SERGEANT- MAJOR	 COMMAND SGT MAJOR	 SGT MAJOR OF THE ARMY	

OFFICER

 2D LIEUTENANT	 1ST LIEUTENANT	 CAPTAIN	 MAJOR			
 2D LIEUTENANT	 1ST LIEUTENANT	 CAPTAIN	 MAJOR			
 LT COLONEL	 COLONEL	 BRIGADIER GENERAL	 MAJOR GENERAL	 LT GENERAL	1/	
 LT COLONEL	 COLONEL	 BRIGADIER GENERAL	 MAJOR GENERAL	 LT GENERAL	 GENERAL	 GENERAL OF THE ARMY



Field Uniform

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

NORWAY

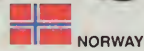
ENLISTED

BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT

SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT
COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY	

OFFICER

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL
LT GENERAL	GENERAL	GENERAL OF THE ARMY	



Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

PAKISTAN

ENLISTED

1/	3/				
2/					
BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY
			NO US EQUIVALENT	NO US EQUIVALENT	NO US EQUIVALENT

OFFICER

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR			
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY



Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

POLAND

ENLISTED

BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT MAJOR	SGT MAJOR OF THE ARMY	



Field Uniform

OFFICER

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR				
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY	

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

PORTUGAL

ENLISTED

BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT
			<p>PORTUGAL</p> <p>Field Uniform</p> <p>1. NO RANK 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION</p> <p>3. NO INSIGNIA 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE</p>		
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT			
	SERGEANT MAJOR	COMMAND SGT MAJOR			
			SGT MAJOR OF THE ARMY		

OFFICER

				<p>PORTUGAL</p> <p>Field Uniform</p> <p>1. NO RANK 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION</p> <p>3. NO INSIGNIA 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE</p>		
2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR			
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

ROMANIA

ENLISTED

BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT

SGT MAJOR OF THE ARMY	COMMAND SGT MAJOR	SERGEANT MAJOR	FIRST SERGEANT	MASTER SERGEANT	SERGEANT 1ST CLASS



Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

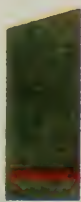
OFFICER

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR			
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

RUSSIA



Private



Corporal



Junior Sergeant



Sergeant



Senior Sergeant



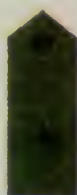
Master Sergeant



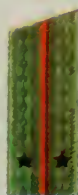
Warrant Officer



Senior
Warrant Officer



Junior Lieutenant



Lieutenant



Senior Lieutenant



Captain



Major



Lieutenant Colonel



Colonel

Field Uniform



SAUDI ARABIA

ENLISTED

2/					
BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT

SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY



Field Uniform










OFFICER










2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR			
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE






SLOVAKIA

ENLISTED

 VOJIN	 SVOBODNIK	 DESATNIK	 CETAR		
1	 BASIC PRIVATE	 PRIVATE	 CORPORAL	 SERGEANT	 STAFF SERGEANT

 ROTNÝ	 ROTMISTR	 NADROTMISTR			
 SERGEANT 1ST CLASS	 MASTER SERGEANT	 FIRST SERGEANT	 SERGEANT- MAJOR	 COMMAND SGT MAJOR	 SGT MAJOR OF THE ARMY

WARRANT OFFICER

 PODPRAPORČIK	 PRAPORČIK	 NADPRAPORČIK	
 W1 WARRANT OFFICER	 W2 CHIEF WARRANT OFFICER	 W3 CHIEF WARRANT OFFICER	 W4 CHIEF WARRANT OFFICER

OFFICER

 PODPORUČIK	 PORUČIK	 NADPORUČIK	 KAPTAIN	 MAJOR
 2D LIEUTENANT	 1ST LIEUTENANT	 CAPTAIN	 MAJOR	

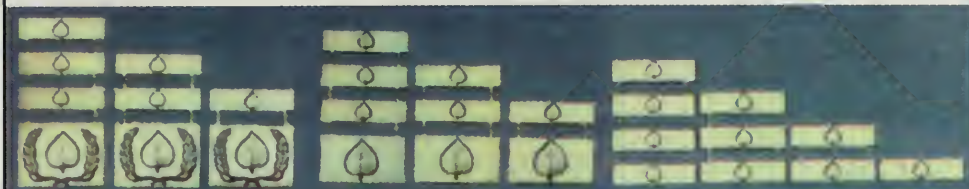


Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

 PODPLUKOVNÍK	 PLUKOVNÍK	 GENERAL MAJOR	 GENERAL PORUČIK	 GENERAL PLUKOVNÍK	 ARMANDNÍ GENERAL	1
 LT COLONEL	 COLONEL	 BRIGADIER GENERAL	 MAJOR GENERAL	 LT GENERAL	 GENERAL	 GENERAL OF THE ARMY

SLOVENIA



Colonel-General
3 Star

Lieutenant-Colonel General
2 Star

Brigadier General
1 Star

Colonel

Lieutenant Colonel

Major

Captain
1st Class

Captain

1st Lieutenant

2D Lieutenant

NCO's



ENLISTED



SPAIN

ENLISTED

1/					
2/					
	BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT
					STAFF SERGEANT

1/		
	SERGEANT 1ST CLASS	MASTER SERGEANT
	FIRST SERGEANT	SERGEANT-MAJOR
	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY



Field Uniform

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE








OFFICER


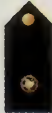







2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR

LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL
					GENERAL OF THE ARMY

SWEDEN









ENLISTED

2	1				
3					
BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT

					
					
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT-MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY



OFFICER

			
			
2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR

Field Uniform

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

						
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

TURKEY

ENLISTED

BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT-MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY



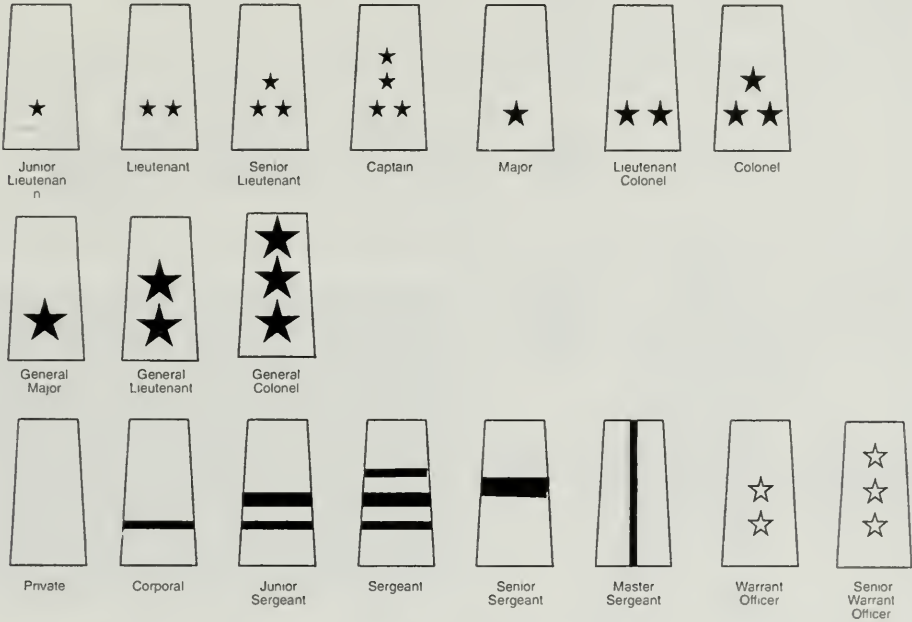
OFFICER

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR			
LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

UKRAINE



Field Uniform



UNITED KINGDOM

ENLISTED

BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT

SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT
	SERGEANT-MAJOR	COMMAND SGT MAJOR
		SGT MAJOR OF THE ARMY



OFFICER

2D LIEUTENANT	1ST LIEUTENANT	CAPTAIN	MAJOR

Field Uniform

1. NO RANK
2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
3. NO INSIGNIA
4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

LT COLONEL	COLONEL	BRIGADIER GENERAL	MAJOR GENERAL	LT GENERAL	GENERAL	GENERAL OF THE ARMY

UNITED STATES

ENLISTED

3						
BASIC PRIVATE	PRIVATE	PRIVATE 1ST CLASS	CORPORAL	SERGEANT	STAFF SERGEANT	
SERGEANT 1ST CLASS	MASTER SERGEANT	FIRST SERGEANT	SERGEANT MAJOR	COMMAND SGT MAJOR	SGT MAJOR OF THE ARMY	



Field Uniform

WARRANT OFFICERS

	W1 WARRANT OFFICER		W2 CHIEF WARRANT OFFICER
	W3 CHIEF WARRANT OFFICER		W4 CHIEF WARRANT OFFICER

OFFICER

	2D LIEUTENANT		1ST LIEUTENANT		CAPTAIN		MAJOR
	LT COLONEL		COLONEL		BRIGADIER GENERAL		MAJOR GENERAL
	LT GENERAL		GENERAL		GENERAL OF THE ARMY		

- 1. NO RANK
- 2. INVERTED STRIPE INDICATES QUALIFIED FOR PROMOTION
- 3. NO INSIGNIA
- 4. GOLD STRIPES INDICATE 12 OR MORE YEARS OF SERVICE

SECTION 13 FWF AND SFOR ARMOR



M84 (M84A) Tank

Combat Weight:	41.5 tons (M84A is 42 tons)
Armament: Main	125-mm, 42 rds
Coax	7.62-mm, 2,000 rds
Turret	12.7-mm, 300 rds

The M84 is equipped with a combined day/night sight with image intensification for night operation. The M84A has improved frontal composite armor and upgraded 1,000-hp powerplant.





T-54/55 Tank

Combat weight:	36 tons
Armament: Main	100-mm, 44 rds
Coax	7.62-mm
Turret	12.7-mm

An external laser rangefinder is mounted above the gun.





T-34/85 Tank

Combat weight:	32 tons
Armament: Main	85-mm, 56 rds
Coax	7.62-mm
Other	7.62-mm (bow)

This is an obsolete tank initially fielded in 1943. It has extremely light armor protection; the heaviest armor does not exceed 85-mm. This tank cannot fire on the move and has no night vision devices.





M47 Medium Tank

Combat weight:	46.2 tons
Armament: Main	90-mm, 71 rds
Coax	7.62-mm, 4,125 rds
Turret	12.7-mm, 440 rds
Other	7.62-mm bow-mounted 2x4 smoke dischargers

This tank was the first post-WWII tank produced by the U.S.





DEGMAN MBT

Combat weight:		43 or 44 tons
Armament:	Main	125-mm, 42 rds
	Coax	7.62-mm, 2,000 rds
	Cdrs	12.7-mm, 300 rds

The DEGMAN tank is the Croatian follow-on to the M84A. In prototype stage, few currently exist. Explosive reactive armor and other upgrades found on the DEGMAN may be retrofitted to other Croatian tanks.





BVP M-80 Infantry Fighting Vehicle

Armament (basic load):

20-mm auto. cannon	400 rds
7.62-mm coax. machinegun	2,250 rds
Twin AT-3A or AT-3C ATGM	4 rds

Lethality:

Cannon:	18-mm RHA @ 500 m
	1,500 m range against air targets
ATGM	2,000 m range/410 mm penetration
	3,000 m range/410 mm penetration





BVP M-80A Infantry Fighting Vehicle

Armament (basic load):

20-mm auto. cannon	1,400 rds
7.62-mm coax. machinegun	2,000 rds
Twin AT-3A or AT-3C ATGM	4

Lethality:

Cannon	18 mm RHA @ 500 m 1,500 m range against air targets 2,000 m range against ground targets
ATGM	3,000 m range/410 mm penetration





BVP M-60P Armored Personnel Carrier

Mobility:

Max. speed	45 km/h
Cruising range	400 km
Fording	1.35 m
Fuel	Diesel

Armament (basic load):

12.7-mm machinegun	3,800 rds
7.62-mm	6,500 rds

Lethality:

12.7-mm API	22 mm RHA @ 200 m/ 11 mm @ 800 m IR night vision.
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BOV-M Armored Personnel Carrier

Mobility:

Max speed:	95 km/h
Cruising range:	500 km
Fording:	1.1 m
Fuel:	Diesel

Armament: 7.62-mm MG

BOV-VP (shown above) is an internal security variant. Several command/communications variants exist.





BIV

Combat weight:	unk (approx. 13,000 kg or 12 to 14 tons)
Width:	unk (approx. 2.4 to 3 m)
Length:	unk (approx. 5 to 6 m)
Height:	unk (approx. 2 m)

The BIV is a 4x4 APC armed with a 12.7-mm machinegun. BIV variants with a 120-mm Krom mortar or a 20-mm automatic cannon have been produced. A 6x6 air defense variant also exists.



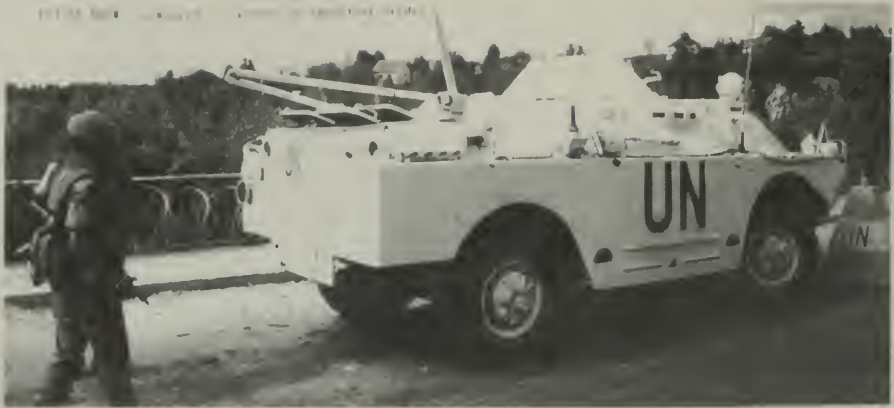


T-72 M (T-72/M1) Tank

Combat weight:	41 tons (T-72/M1 is 44 tons)
Armament: Main	125-mm, 44 rds
Coax	7.62-mm
Turret	12.7-mm
Other	none

The fire control features a laser rangefinder, electromechanical analog ballistic computer, and stabilized (two-plane) but separate day/night sights. The T-72M1 has additional armor in the turret front and upper glacis. Two ribs on the upper glacis distinguish it from other T-72 tanks.





BRDM-2

Combat weight:	7,000 kg
Width:	2.35 m
Length:	5.75 m
Height:	2.31 m

The BRDM-2 Russian-built 4x4 armored reconnaissance vehicle with 2 raised belly wheels between the tires on each side. The turret with a 14.5-mm machinegun is centered on the hull. Access is limited to hatches located on the hull top.





BTR-60PB

Combat weight:	9,980 kg
Width:	2.82 m
Length:	7.56 m
Height:	2.61 m

This is an earlier version of the BTR-80 and BTR-70; similar 8x8 configuration but with a larger hull portion above the wheel line. Some variants use the same turret as the BTR-70 while others are turretless. The troop access hatch is a large door between the second and third wheels in the upper portion of the hull.





MT-LB

Combat weight:	11,900 kg
Width:	2.86 m
Length:	6.45 m
Height:	1.86 m

Russian-designed general purpose tracked armored vehicle. Each track has 6 large road wheels and a front drive sprocket. Small machine-gun turret on the right front. Low hull with chambered top.



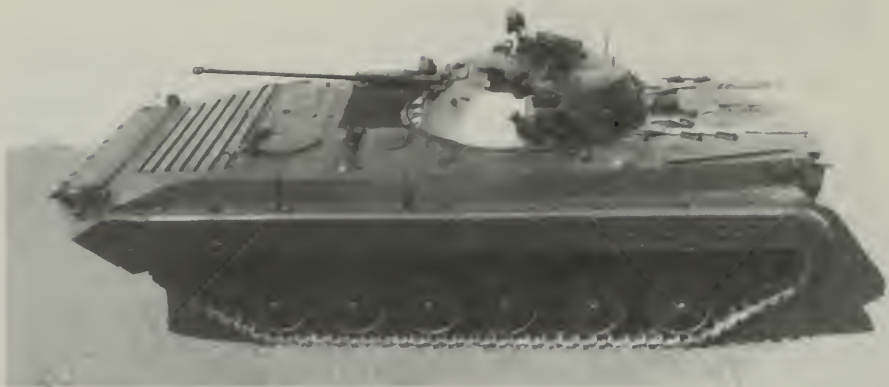


BMP-1

Combat weight:	13,500 kg
Width:	2.94 m
Length:	6.74 m
Height:	2.15 m

This is an armored infantry fighting vehicle with a low-pressure 73-mm main gun and an AT-3 ATGM launch rail. Very low one-man turret is centered on a low-profile hull. Each track has 6 road wheels and 3 track-return rollers. The hull sides have firing ports and vision blocks are located on the hull roof and there are 2 doors in the rear of the troop compartment. Built in nearly identical forms by other former Warsaw Pact countries and sometimes as BVP-1 or MLI-84.

SFOR



BMP-2

Combat weight:	14,600 kg
Width:	3.09
Length:	6.71
Height:	2.06

The BMP-2 is similar to BMP-1 but with a 2-man turret, a 30-mm automatic cannon, and a launch position for the AT-4 or AT-5 ATGM. The side skirts are larger than the BMP-1's and the turret usually is equipped with smoke grenade tubes.



BTR-80

Combat weight:	13,600 kg
Width:	2.90 m
Length:	7.65 m
Height:	2.35 m

This is a Russian-built APC. Configuration is 8x8 with the troop access hatch between the second and third wheel. This hatch has an upper and lower section. The high-angle-of-fire turret mounting a 14.5-mm machinegun is located above the second wheel.

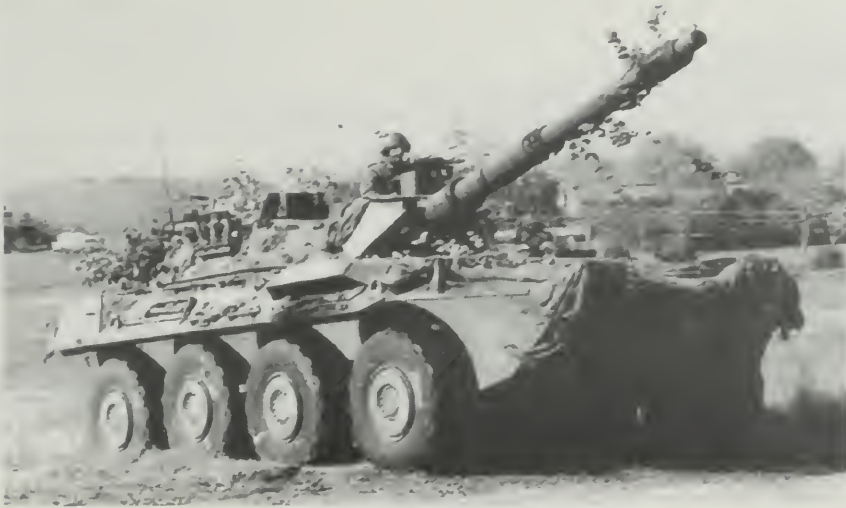




BTR-70

Combat weight:	11,500 kg
Width:	2.80 m
Length:	7.53 m
Height:	2.23 m

The BTR-70 is a Russian-built APC—similar to the BTR-80. The troop access hatch on the BTR-70 has only a lower section and the turret lacks a high-angle-of-fire capability.

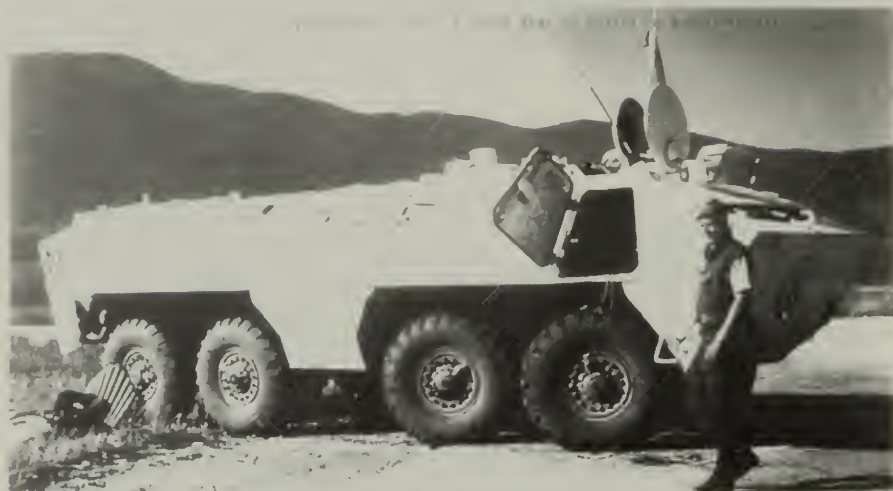


CENTAURO

Combat weight:	2,400 kg
Width:	3.05 m
Length:	8.55 m
Height:	2.71 m

This is an Italian wheeled armored vehicle armed with a 105-mm gun. This gun has a unique, 8-vent muzzle brake. The 8x8 configuration features evenly spaced wheels. The large turret is mounted to the rear of the hull. Some vehicles may have explosive reactive armor boxes mounted on the hull and turret.





OT-64

Combat weight:	14,300 kg
Width:	2.55 m
Length:	7.44 m
Height:	2.06 m

Built in Poland and the former Czechoslovakia, this APC has both turretless variants and others with a turret mounted 14.5-mm machine-gun. The 8x8 configuration has a large gap between the second and third wheel.



AMX-30 B2

Combat weight:	37,000 kg
Width:	3.1 m
Length:	6.59 m
Height:	2.29 m

This is a French-built tank armed with a 105-mm gun equipped with a thermal sleeve. Each track has 5 evenly spaced road wheels with 5 track-return rollers. Only the AMX-30 S model has side skirts.





LEOPARD 1A3

Combat weight:	42,400 kg
Width:	3.41 m
Length:	7.09 m
Height:	2.76 m

German-built tank armed with a 105-mm gun with a fume extractor. Each track has 7 evenly spaced road wheels with 4 track-return rollers. A 4-section side skirt is commonly used.





M1A1 ABRAMS

Combat weight:	57,142 kg
Width:	3.66 m
Length:	9.83 m
Height:	2.89 m

U.S.-built tank armed with a 120-mm gun with a fume extractor. The turret is large, and each track has 7 evenly spaced road wheels. Side skirts cover to the top of the road wheels.



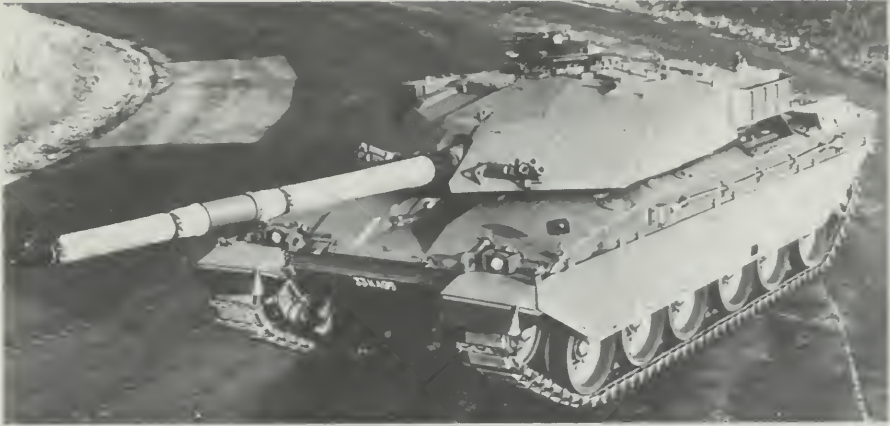


CHALLENGER 2

Combat weight:	62,500 kg
Width:	3.52 m
Length:	9.86 m
Height:	2.95 m

The Challenger 2's 120-mm gun has a thermal sleeve, central fume extractor, muzzle reference system, and a large thermal imager located directly over the gun mantlet. A fan-shaped group of smoke grenade dischargers is centered on each side of the front turret glacis. The turret is large and relatively clean. Each track has 6 road wheels and is covered by a side skirt similar to the Abrams.





CHALLENGER 1

Combat weight:	62,000 kg
Width:	3.52 m
Length:	9.80 m
Height:	2.95 m

Similar to the Challenger 2 but lacking the thermal sight over the gun mantlet. The fume extractor is smaller than the Challenger 2's and the turret's top surface is more cluttered.





CHIEFTAIN

Combat weight:	55,000 kg
Width:	3.50 m
Length:	9.86 m
Height:	2.89 m

The 120-mm gun has a thermal sleeve, internal mantlet, and fume extractor. The turret has a rounded, steeply sloped front. Each track has 6 road wheels and side skirts.





AMX-10RC

Combat weight:	15,880 kg
Width:	2.95 m
Length:	9.15 m
Height:	2.68 m

This is a French 6x6 armored vehicle armed with a 105-mm gun. The gun has a thermal sleeve and muzzle brake. The wheels are evenly spaced and the vehicle's height is adjustable. Small, square engine vents are located on each side behind the rear wheel.





ERC 90

Combat weight:	8,100 kg
Width:	2.49 m
Length:	7.69 m
Height:	2.25 m

The ERC-90 is a French armored car armed with a 90-mm cannon. The Sagaie variant uses the F4 gun which has a long barrel and a muzzle brake. The wheels on the 6x6 configuration are not evenly spaced—a gap between the first and second wheel provides room for a small door.





SCIMITAR

Combat weight:	7,800 kg
Width:	2.24 m
Length:	4.98 m
Height:	2.09 m

Armored reconnaissance vehicle armed with a 30-mm automatic cannon. Front drive sprocket and a slack-track design with 5 large road wheels on each track. Turret is located to the rear of the hull.





M2 BRADLEY

Combat weight:	22,590 kg
Width:	3.2 m
Length:	6.45 m
Height:	2.97 m

U.S. armored infantry fighting vehicle armed with a 25-mm automatic cannon. Each track has 6 small, unevenly spaced road wheels. M2A2 variant has added applique armor.





YPR 765/VCC-2 Armored Infantry Fighting Vehicle

Combat weight:	13,687 kg
Width:	2.82 m
Length:	5.26 m
Height:	2.01 m

A variant of the M113, the AIFV uses the same track design but the hull has been redesigned with firing ports and added armor. Armament varies from turreted automatic cannons to a pinion mounted machine-gun. AKA YPR 765 in Netherlands and VCC-2 in Italy.





K200 Korean Infantry Fighting Vehicle (KIFV)

Combat weight:	12,900 kg
Width:	2.85 m
Length:	5.49 m
Height:	1.93 m

South Korean-built copy of the AIFV and nearly identical in appearance. Like the AIFV, armament packages will vary.



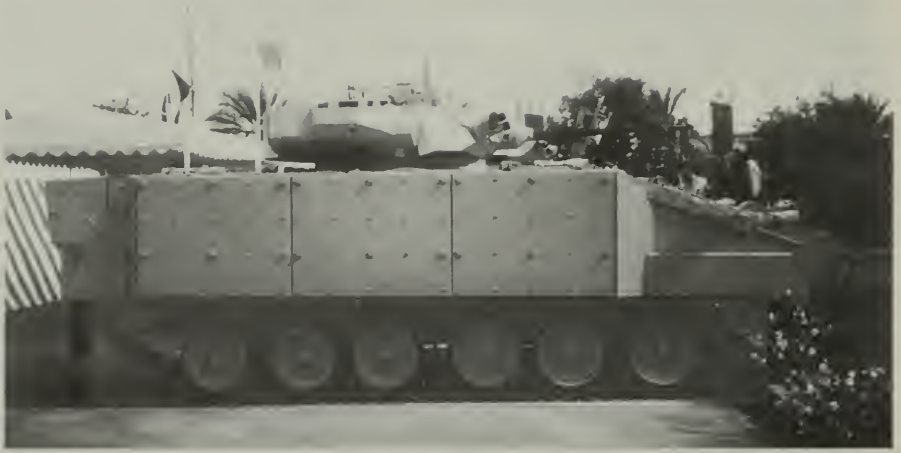


VCC-1

Combat weight:	11,600 kg
Width:	2.69 m
Length:	5.04 m
Height:	2.55 m

Italian-built M113 variant—nearly identical to the AIFV except that it lacks the composite add-on armor. Armament consists of a ring-mounted 12.7-mm machinegun.





WARRIOR

Combat weight:	24,500 kg
Width:	3.03 m
Length:	6.34 m
Height:	2.74 m

British infantry fighting vehicle armed with a 30-mm automatic cannon. The gun has a long barrel and a flash eliminator. Each track has 6 evenly spaced road wheels and 3 return-rollers. A large rectangular access hatch is located in the left side of the hull directly under the turret. Add on side armor panels can be fitted to the hull.





VEC

Combat weight:	13,750 kg
Width:	2.50 m
Length:	6.10 m
Height:	2.00 m (hull)

Armored scout variant of the Spanish BMR-600. Turret-mounted 25-mm automatic cannon. Engine has been moved to the left rear of the vehicle.





VBL

Combat weight:	3,550 kg
Width:	2.02 m
Length:	3.70 m
Height:	1.70 m

French armored scout car with a 4x4 configuration. The front of the vehicle has a low, car-like hood and the rear is box-like with a large access door at the back. Trapezoidal louvres are located behind the front wheels. Armament can include a machinegun, ATGM, or no weapons.



LYNX

Combat weight:	8,775 kg
Width:	2.41 m
Length:	4.59 m
Height:	2.18 m

Reconnaissance variant of the M113. The front is sloped more than the M113 and an external gun (12.7-mm to 25-mm) is located on the right side of the hull. Each track has only 4 road wheels.





COUGAR

Combat weight:	10,500 kg
Width:	2.53 m
Length:	5.97 m
Height:	2.53 m

Identical to the Grizzly except for the turret, which carries a low pressure 76-mm gun (standard British Scorpion turret).





BMR-600

Combat weight:	14,000 kg
Width:	2.50 m
Length:	6.15 m
Height:	2.00 m

Spanish-built APC that usually mounts an external 12.7-mm machinegun over the driver's position in the left front corner of the hull. The 6x6 configuration has evenly spaced wheels. The troop access hatch is at the rear with 2 additional hatches in the roof.

SFOR



Pbv 302

Combat weight:	13,500 kg
Width:	2.86 m
Length:	5.35 m
Height:	2.5 m

Swedish tracked APC with 5 large road wheels on each side. A relatively tall cupola mounting a 20-mm automatic cannon is on the left front. The front hull corners are rounded.





Bv 206s

Combat weight:	7,000 kg
Width:	2.00 m
Length:	6.75 m
Height:	2.03 m

All-terrain APC consisting of a front and rear sections. Each section has a wide track and 5 road wheels. Some variants have a roof-mounted machinegun.





SISU XA-180

Combat weight:	15,500 kg
Width:	2.90 m
Length:	7.35 m
Height:	2.30 m

Finnish-built APC that can be deployed with or without a gun turret. Wheeled 6x6 design with side doors for the driver and front passenger and 2 large rear doors for the infantry section.





BTR-D

Combat weight:	8,000 kg
Width:	2.60 m
Length:	5.80 m
Height:	2.0 m

Air-droppable APC variant of the Russian BMD family of infantry fighting vehicles. Tellurites design with a pointed front hull. Each track has 6 small, evenly spaced road wheels and 5 return-rollers.





M113A1

Combat weight:	11,340 kg
Width:	2.69 m
Length:	4.86 m
Height:	1.85 m

A U.S. armored personnel carrier that will be supplied to many of the countries involved in peacekeeping operations. A2 and A3 variants are similar in appearance. Slack track design with 5 large evenly spaced road wheels. High, straight hull sides with a large wave deflector on the front. Armament is usually a ring-mounted machinegun but gun shields are not uncommon.





M113A1 w/Added Armor

Same as M113A1 except for increased weight and width which varies with the armor used.

To increase ballistic protection, many M113 APCs have added armor to the original design. The vehicle's appearance will vary depending upon the particular add-on armor package employed.





GRIZZLY

Combat weight:	10,500 kg
Width:	2.53 m
Length:	5.97 m
Height:	2.53 m

The APC variant in Canada's LAV family. The 6x6 configuration has the back 2 wheels close together and a significant space between the middle and front wheel. The hull design is the standard Piranha design (like the USMC LAV-25). A small caliber automatic weapon in a small turret is above the middle wheel.





SAXON

Combat weight:	9,940 kg
Width:	2.49 m
Length:	5.17 m
Height:	2.63 m

Bizarre-looking 4x4 vehicle with a high, box-like profile. The wheel wells are open and the front engine compartment is vented on the front and sides. Saxon operates as an APC and multipurpose vehicle.

SFOR



FV-432

Combat weight:	15,280 kg
Width:	2.80 m
Length:	5.25 m
Height:	2.28 m

British tracked APC with 5 road wheels and 2 return-rollers on each track. The hull has straight sides and a gradually sloping front. A machinegun is mounted over the 4th road wheel. There are no firing ports and the troops exit through a large door at the rear of the vehicle.





AMX-10P

Combat weight:	14,500 kg
Width:	2.78 m
Length:	5.78 m
Height:	2.57 m

French tracked APC, usually armed with a 20-mm cannon in an external turret. Each track has 5 evenly spaced road wheels and 3 track-return rollers. The sides are straight and the front glacis is long and sloping with a large wave deflector.





FAHD

Combat weight:	11,250 kg
Width:	2.45 m
Length:	6.00 m
Height:	2.1 m

Large rectangular-shaped vehicle with a very long wheelbase. Smoke grenade launchers are located along the top rear of each hull side and the front has 2 large windshields and a square engine vent. Each hull side has 4 firing ports with vision blocks.





CONDOR

Combat weight:	12,400 kg
Width:	2.47 m
Length:	6.47 m
Height:	2.18 m (hull)

German-built APC with driver at the left front. Configuration is 4x4 and some variants have a gun turret with a 20-mm cannon or a machine-gun. Very similar in appearance to the Croatian BIV.





TYPE 6614

Combat weight:	8,500 kg
Width:	2.50 m
Length:	5.86 m
Height:	2.18 m

Italian-built 4x4 APC with a ring-mounted 12.7-mm machinegun. Doors are located mid-vehicle on both sides and a large ramp opens downward at the vehicle's rear. Four firing ports are located on each side of the hull large rectangular louvres are located above the front wheels.



VAB

Combat weight:	13,000 kg
Width:	2.49 m
Length:	5.98 m
Height:	2.06 m

French 4x4 APC has open wheel wells and a box-type body. Access doors are located over both front wheels. The front nose is sloped with a wave deflector and 2 rectangular windows for the driver and front passenger. Armament varies but is usually a light machinegun located above the front right passenger.





BMD-2

Combat weight:	8 tons
Armaments:	Main 30-mm automatic gun (300 rds)
	Coax 7.62-mm machinegun
	Bow One 7.62-mm machinegun (3000 rds for both mgs)
	ATGM AT-4 or AT-5 (3 rds)

This Russian airborne combat vehicle is essentially a rearmed BMD-1. The BMD-1's 73-mm gun has been replaced by the 30-mm Model 2A42 automatic gun. The vehicle carries a crew of two (driver, gunner) and 5 infantrymen.





BMD-3

Combat weight:	12.5 tons
Armaments:	Main 30-mm automatic gun (500 rds)
	Coax 7.62-mm mg (2000 rds)
	Bow 5.45-mm mg (2000 rds)
	30-mm AGL (290 rds)
	ATGM AT-5 (6 rds)

This is Russia's latest airborne combat vehicle. The BMD-1 chassis has been stretched, its engine and transmission upgraded, and the BMP-2's turret and armaments have replaced its old BMP-1's turret. It carries a crew of three (driver, gunner, commander) and five infantrymen.





Luchs with Add-On Armor

Combat weight:	19,500 kg
Width:	2.98 m
Length:	7.743 m
Height (to top of turret):	2.125 m

An 8x8 German armored amphibious reconnaissance vehicle with a crew of four. The rectangular body has sloping sides and front glacis. There are two hatches on the hull and two on the turret. The vehicle is armed with a dual feed 20-mm cannon and a 7.62-mm coaxial machine-gun mounted over the commander's hatch. Four smoke dispatchers are located on both sides of the centrally mounted turret.



SECTION 14

FWF AND SFOR ANTIARMOR



T-12 Towed Antitank Gun

Comments: Crew of six. Yugoslav-built M91 Topaz uses the same tube on a revised chassis.

Characteristics:

Caliber	100mm
Ammunition	HEAT, APRSDS, HE-Frag
Effective Range	1,880 m for APFSDS, 8,200 m for HE
Armor Penetration	250mm for APFSDS, 400mm for HEAT
Rate of Fire	6 rounds a minute

Comment: May be fitted with a laser rangefinder.





ZIS-3 Towed Antitank Gun

Comments: Crew of five. Well suited to operations in rough and soft terrain.

Characteristics

Caliber	76mm
Ammunition	HEAT, HVAP, APC, HE-Frag, Smoke (WP)
Effective Range	500 m (HVAP), 13290 maximum (HE-Frag)
Armor Penetration	92mm for HVAP, 120mm for HEAT
Rate of Fire	8 to 10 rounds per minute





M-36B2 Self-Propelled Gun

Comments: Crew of five. Same suspension as M4 Sherman Tank. Has a partial covering over an open-top turret. Mounts a .50 caliber machinegun.

Characteristics

Caliber	90mm
Effective Range	1000 m





BRDM-2 SAGGER ATGM Carrier

Mobility:

Max. Speed	100 km/h	Cruising Range	750 km
Fording	Amphib.	Fuel	Gasoline

Armor Effectiveness:

Overall 7.62mm AP

Armament: AT-3. ATGM (14 missiles) *

Lethality: 410mm penetration @ 3000 m

Comments:

Collective NBC protection.
ATGM launcher is retractable.

*See data on Malyutka ATGM.





***** BOV-1 Antitank Guided Missile Carrier**

Mobility:

Max. Speed	95 km/h	Cruising Range	800 km
Fording	1.1 m	Fuel	Diesel

Armor Effectiveness:

Overall 7.62mm AP @ 300 m

Armament: Six AT-3 ATGM* launch rails

Lethality: 410mm RHA @ 3000 m

Comments:

*See data on Malyutka and Malyutka-P ATGM.





Mi-24V (HIND E) SHTURM Launch Platform

Max Range and Flight Time:	5,000 m in 14.5 seconds
Night Vision Device:	No
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	600 mm of RHA
Guidance/Command Link:	SACLOS/RF
Attack Profile:	Direct LOS





DRAGON Ground Launcher

Max Range and Flight Time:	1,000 m in 12 seconds
Night Vision Device:	Thermal Imaging
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	450 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS
Launch Platforms:	Ground Launcher

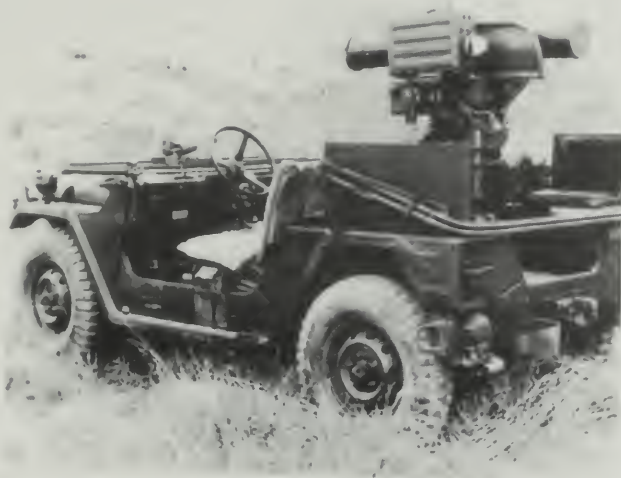




FAGOT Ground Tripod Launcher

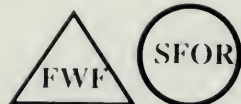
Max Range and Flight Time:	2,000 m in 14 seconds
Night Vision Device:	Thermal Imaging
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	550 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS





GREEN ARROW Jeep Launch Platform

Max Range and Flight Time:	3,000 m in 13.6 seconds
Night Vision Device:	No
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	650 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS





BRDM-2 KONKURS Launcher

Max Range and Flight Time:	4,000 m in 19 seconds
Night Vision Device:	Thermal Imaging
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	650 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS





BMP-1 MALYUTKA Launch Platform

Max Range and Flight Time:	3,000 m in 26 seconds
Night Vision Device:	No
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	400 mm of RHA
Guidance/Command Link:	MCLOS/Wire
Attack Profile:	Direct LOS





BOV-1 MALYUTKA-P Launch Platform

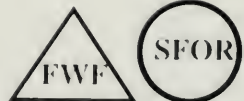
Max Range and Flight Time:	3,000 m in 26 seconds
Night Vision Device:	No
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	460 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS





MILAN 2 Ground Launcher

Max Range and Flight Time:	2,000 m in 12.5 seconds
Night Vision Device:	Thermal Imaging
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	1000 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS
Launch Platforms:	Ground Tripod, Compact Turret





RED ARROW-8 Tripod Ground Launcher

Max Range and Flight Time:	3,000 m in 13.6 seconds
Night Vision Device:	No
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	650 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS





SPARTAN

Combat weight:	8,172 kg
Width:	2.24 m
Length:	5.12 m
Height:	2.26 m

The APC variant for the family of armored vehicles that includes the Scimitar and the Striker. The hull front is long and sloped with a flat roof beginning above the third road wheel. Spartan can be configured to perform many additional roles such as ATGM launcher and engineer support.





STRIKER

Combat weight:	8,346 kg
Width:	2.28 m
Length:	4.83 m
Height:	2.10 m

Swingfire ATGM launcher. Hull design is similar to Spartan. Rear hull roof rotates upward to launch ATGMs. Track design is the same as the Scimitar.



BILL Ground Launcher

Max Range and Flight Time:	2,200 m in 13 seconds
Night Vision Device:	Thermal Imaging
Warhead Type:	Tandem Shaped Charge
Warhead Penetration:	600 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Fly over shoot down
Launch Platforms:	Ground Launcher





Eryx Ground Launcher

Max Range and Flight Time:	600 m in 3.6 seconds
Night Vision Device:	Thermal Imaging
Warhead Type:	Tandem Shaped Charge
Warhead Penetration:	900 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS
Launch Platforms:	Ground Launcher





AH-64 Apache HELLFIRE Launch Platform

Max Range and Flight Time:	8,000 m in 32 seconds
Night Vision Device:	Thermal Imaging
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	1,000 mm of RHA
Guidance/Command Link:	LSAH
Attack Profile:	Dive Attack or Direct

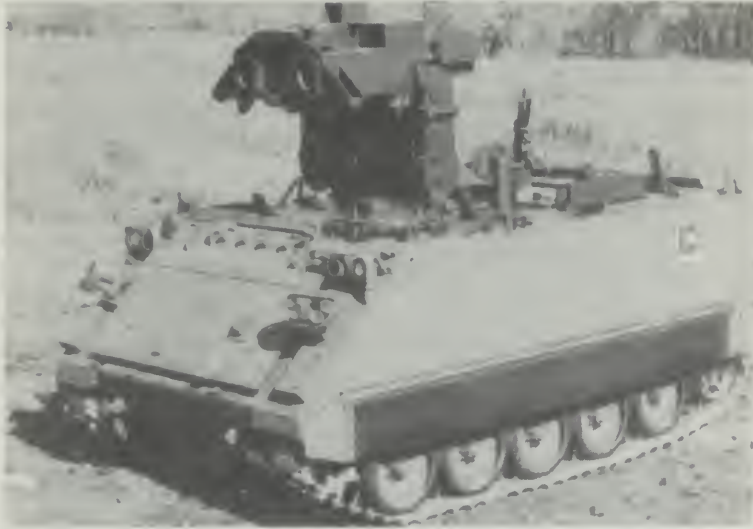




VAB APC HOT 2 Launch Platform

Max Range and Flight Time:	4,000 m in 17.4 seconds
Night Vision Device:	Thermal Imaging
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	1,000 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS





M901a2 ITV ITOW Launch Platform

Max Range and Flight Time:	3.750 m in 3.6 seconds
Night Vision Device:	Thermal Imaging
Warhead Type:	Tandem Shaped Charge
Warhead Penetration:	900 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS
Launch Platforms:	Ground Launcher





KONKURS-M Tripod Ground Launcher

Max Range and Flight Time:	4,000 m in 19 seconds
Night Vision Device:	Thermal Imager
Warhead Type:	Tandem Shaped Charge
Warhead Penetration:	800 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS





KORNET Ground Tripod Launcher

Max Range and Flight Time:	5,000 m in 21 seconds
Night Vision Device:	Thermal Imaging
Warhead Type:	Tandem Shaped Charge or Blast
Warhead Penetration:	1200 mm of RHA
Guidance/Command Link:	LBR
Attack Profile:	Direct LOS





METIS-M Tripod Ground Launcher

Max Range and Flight Time:	1,500 m in 7.5 seconds
Night Vision Device:	Thermal Imager
Warhead Type:	Tandem Shaped Charge or Blast
Warhead Penetration:	900 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS





METIS Tripod Ground Launcher

Max Range and Flight Time:	1,000 m in 5 seconds
Night Vision Device:	Thermal Imaging
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	500 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS





MILAN 3 Ground Launcher

Max Range and Flight Time:	2,000 m in 12.5 seconds
Night Vision Device:	Thermal Imager
Warhead Type:	Tandem Shaped Charge
Warhead Penetration:	1,200 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS
Launch Platforms:	Ground Tripod, Compact Turret





RED ARROW-73 Ground Launch Platform

Max Range and Flight Time:	3,000 m in 26 seconds
Night Vision Device:	No
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	400 mm of RHA
Guidance/Command Link:	MCLOS/Wire
Attack Profile:	Direct LOS





STRIKER SWINGFIRE Launch Platform

Max Range and Flight Time:	4,000 m in 22 seconds
Night Vision Device:	Image Intensifier
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	800 mm of RHA
Guidance/Command Link:	MCLOS/Wire
Attack Profile:	Direct LOS





TOW Ground Tripod Launcher

Max Range and Flight Time:	3,750 m in 20 seconds
Night Vision Device:	Thermal Imager
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	750 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS





M113 APC TOW-2 Launch Platform

Max Range and Flight Time:	3,750 m in 20 seconds
Night Vision Device:	Thermal Imager
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	900 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS



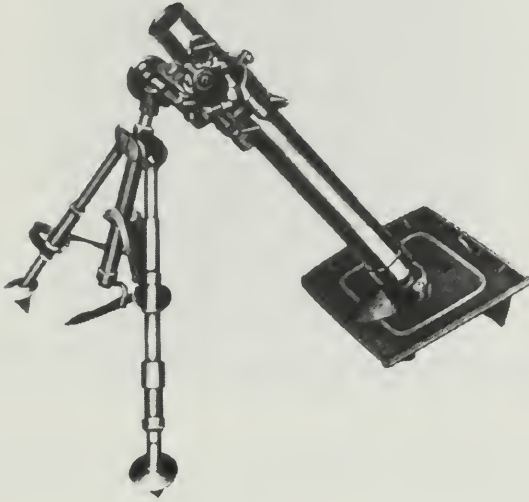


HMMWV TOW-2A Launch Platform

Max Range and Flight Time:	3,750 m in 20 seconds
Night Vision Device:	Thermal Imager
Warhead Type:	Unitary Shaped Charge
Warhead Penetration:	750 mm of RHA
Guidance/Command Link:	SACLOS/Wire
Attack Profile:	Direct LOS



SECTION 15 FWF AND SFOR ARTILLERY



60-mm Mortar M57

Standard infantry support weapon.

Range:	2,537 m
Weight:	19.7 kg (2 one-man loads)
Ammunition types:	HE, Illum, Smoke

The M57 was copied from the U.S. M2 and is in widespread use.





60-mm Commando Mortar M70

Standard infantry support weapon.

Range:	2,537 m
Weight:	7.6 kg
Ammunition types:	HE, Illum, Smoke

Designed to replace the M57, the M70 commando mortar is in service with all factions. Although transported by a single crewman, a second is normally used to carry ammunition.





60-mm Mortar M90

Limited standard infantry support weapon.

Range:	5,200 m
Weight:	30 kg (2 one-man loads)
Ammunition types:	HE

The M90 is a long-range mortar system, the last developed before the war began in Bosnia. A small number of the mortars are probably in service, but the long-range ammunition is only available in quantity for the Serbs.





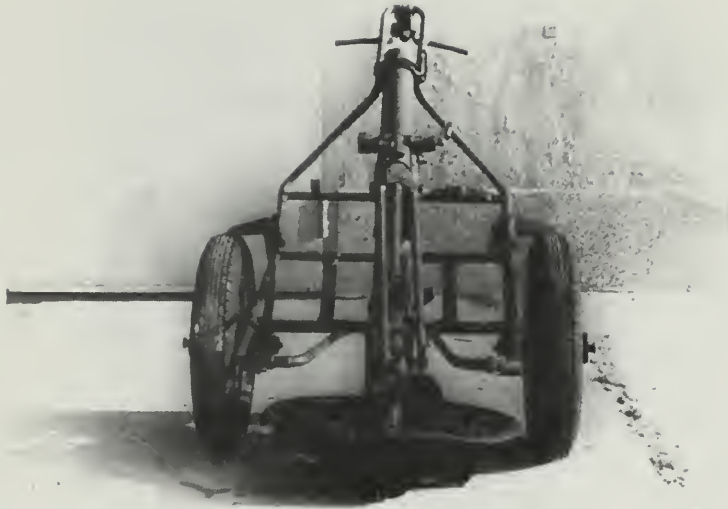
81-mm/82-mm Mortar M69

Standard infantry support weapon.

Range:	5,400 m (M69B) 6,050 m (M69A)
Weight:	54-56 kg (3 one-man loads)
Ammunition types:	HE, Smoke (WP), Illum

The 81-mm M69B and 82-mm M69A mortars are almost identical in appearance. The M69B was originally intended for export but may have been pressed into service with one or more of the factions.





107-mm Mortar M-1938

Pre-World War II-vintage mortar pressed into service.

Range:	6,300 m
Weight:	852 kg (towed on 2-wheeled cart)
Ammunition types:	HE

As the war in Bosnia progressed, a limited number of these pre-war mortars have been removed from storage depots and pressed into service. The M-1938 looks very similar to the 120-mm mortar M-38/43.





120-mm Mortar M-38/43

Limited standard infantry battalion-level support weapon.

Range:	5,700 m
Weight:	522 kg (normally towed on two-wheeled cart)
Ammunition types:	HE, Illum, Smoke (WP)

A number of M-38/43 were obtained from the Soviet Union during/ immediately after World War II. These systems have been withdrawn from depots and pressed into active service.





120-mm Mortar UB M52

Old system, still in limited service.

Range:	4,760 m (6,010 m with ER projectile)
Weight:	420 kg
Crew:	5
Ammunition types:	HE, HE-ER, Smoke (WP)-ER, Illum-ER

The oldest Yugoslav-developed mortar in general service, the UB M52 has several variants, the most common of which is the UB M52A4 fitted with pneumatic tires. All share the unique rectangular baseplate and wheels that remain attached during firing.





120-mm Mortar M75

Most common 120-mm mortar in service.

Range:	5,400 m (9,056 m with RAP)
Weight:	178 kg 261 kg (in travel)
Crew:	4
Ammunition types:	HE, HE-RA; Smoke (HC), Smoke (WP), Illum

The M75 is the standard mortar in service with the various factions. It can be identified by the circular baseplate with three large ribs. When mounted on the transport cart it can be towed by vehicle, horse, or the crew.





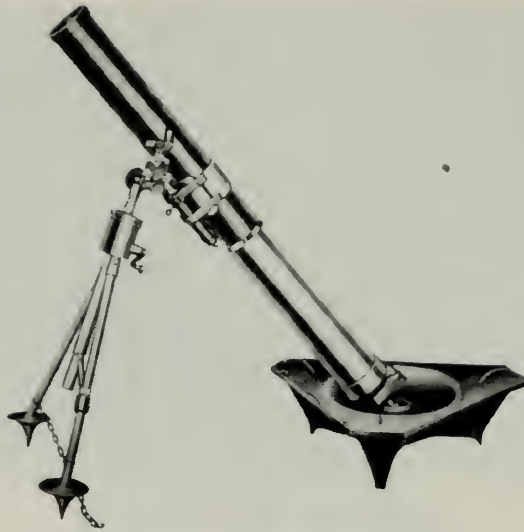
120-mm Mortar K-6

Limited standard mortar in ABiH.

Range:	7,200 m
Weight:	208 kg (on transport cart) 108 kg (3 one-man loads)
Ammunition types:	HE; Smoke (WP) and Illum (possible)

Similar in appearance to the Yugoslav M74, the K-6 can be identified by the slightly rounded sides of the baseplate and the two vertical handles on the baseplate.





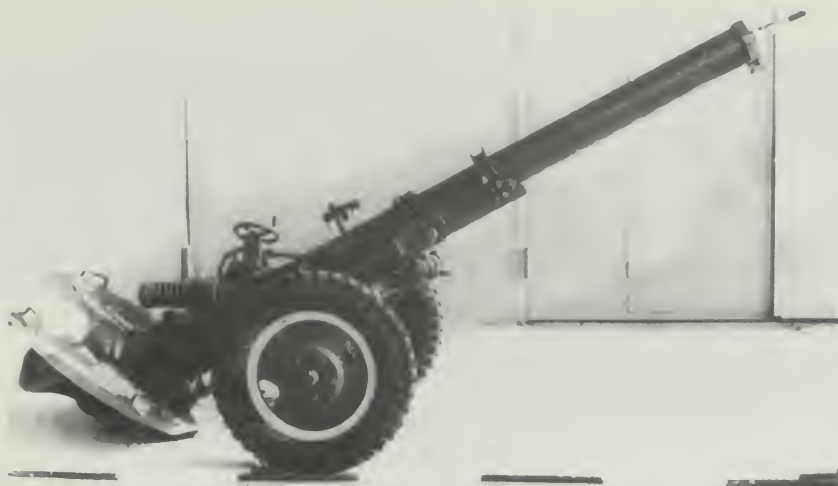
120-mm Mortar M74

Standard infantry battalion-level support weapon.

Range:	5,374 m 9,056 m (with RAP)
Weight:	208 kg (towed on two-wheeled cart)
Ammunition types:	HE, HE-RAP, Illum, Smoke (WP)

The M74 was the mountain, or lightweight, version of the former JNA's standard mortar, the M75. Although the two have different tube composition, ballistically they are the same. The M74 can be distinguished by its triangular baseplate (the M75's is round).





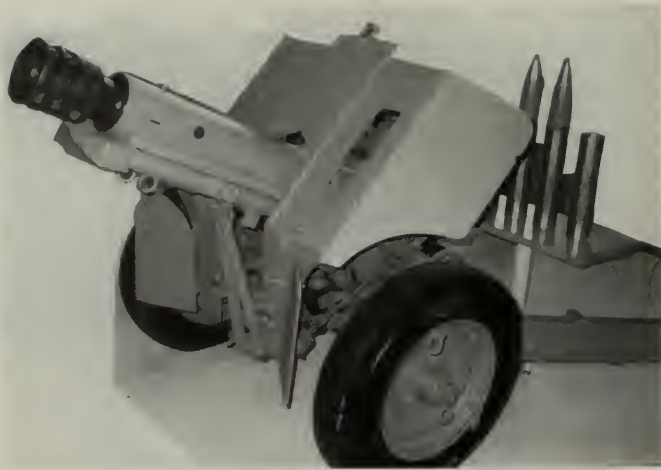
160-mm Mortar M-160

Limited standard infantry support weapon.

Range:	8,040 m
Weight:	1,474 kg (towed on integral wheels)
Ammunition types:	HE

A limited number of the M-160 (or possibly a foreign-produced copy) have reportedly entered service with the BSA. Although shorter-ranged, the mortar's projectiles are more powerful than those fired from most 152/155-mm howitzers. The breech-loaded mortar is towed muzzle first using lunette muzzle cap.





76-mm Mountain Gun M48B-1

Mountain gun in widespread service with all FWF.

Range:	8,750 m
Weight:	720 kg
Crew:	6
Ammunition types:	HE, HEAT

The M48B1 is also known as the Tito Gun after the country's former leader. The first weapon developed by the country, it reflected the harsh nature of the Yugoslav terrain and reliance on guerrilla forces in Yugoslav military strategy. Although of limited capability, the M48B-1 is easily broken down for transport and can be moved by pack animals.





105-mm Howitzer M56

Standard close-support weapon.

Range:	13,100 m
Weight:	2,100 kg
Crew:	6
Ammunition types:	HE, HEAT-FS, Smoke (WP)

The M56 is an old system developed to allow the former JNA to fire U.S.-pattern ammunition from howitzers based on pre-World War II designs. The system is simple, rugged, reliable, and used by all factions. The multi-baffle muzzle brake is unique to this howitzer.





105-mm Howitzer M-18 (series)

Limited standard, obsolescent close-support weapon.

Range:	12,325 m (M-18/40) approx. 13,000 m (M-18/61)
Weight:	approx. 3,000 kg
Crew:	5-7
Ammunition types:	HE, HEAT, Smoke (WP), Illum

Left over from the German occupation during World War II, there are at least two versions of the 105-mm Howitzer M-18 in service: the M-18/40 (sometimes called the M-18/43) and the modernized M-18/61. The latter has been adapted to fire U.S.-pattern ammunition.





122-mm Howitzer M-38

Standard close-support weapon.

Range:	11,800 m
Weight:	2,250 kg
Crew:	5-7
Ammunition types:	HE, HEAT, Illum, Smoke (WP)

Another veteran of World War II, the M-38 (Soviet designator M-30) is in standard service with all factions. Some of the howitzers may have been upgraded with pneumatic tires to improve mobility.





122-mm Gun D-74

Limited standard general-support weapon.

Range:	23,900 m
Weight:	5,150 kg
Crew:	6-8
Ammunition types:	HE

Observed once on a television news report, the D-74 gun is probably only in limited service. It may be confused with the D-20 or M84 since they share a common carriage. The only recognizable difference is in the length/diameter of the cannon tube.





122-mm Howitzer D-30J

Standard close-support howitzer in widespread service.

Range:	15,300 m (17,300 m with ER projectiles)
Weight:	3,440 kg
Crew:	6
Ammunition types:	HE, HE-ER, HEAT-FS, Smoke (WP), Illum

The D-30J is an improved version of the Soviet D-30A. The D-30J fires an extended-range projectile, necessitating a new range drum for elevation settings. The D-30J is a trifurcate (3-trailed) system and is towed tube-over-trails by a lunette attached to the muzzle brake. In firing position the wheels are lifted off the ground.





122-mm SP Howitzer 2S1

Limited standard close-support howitzer.

Range:	15,200 m
Weight:	15,700 kg
Crew:	4
Ammunition types:	HE, HEAT-FS, Smoke (WP), Illum

The JNA purchased the 2S1 from the Soviet Union in the 1980s. Following the outbreak of the war, some of the 2S1 have been captured by the non-Serb factions. The system is fully amphibious and is the only modern SP howitzer in service in any of the factions





130-mm Gun M-46

Standard long-range cannon system.

Range:	27,490 m
Weight:	8,450 kg
Crew:	7-8
Ammunition types:	HE, Smoke (WP), Illum

Despite its age, the M-46 remains an extremely effective long-range cannon system. Because of its weight, a limber is used in travel and the cannon is normally withdrawn from battery. Some of the systems have been converted to 155-mm gun-howitzers (compare to M-46/84). The “pepperpot” muzzle brake and angled shield are unique to this weapon.





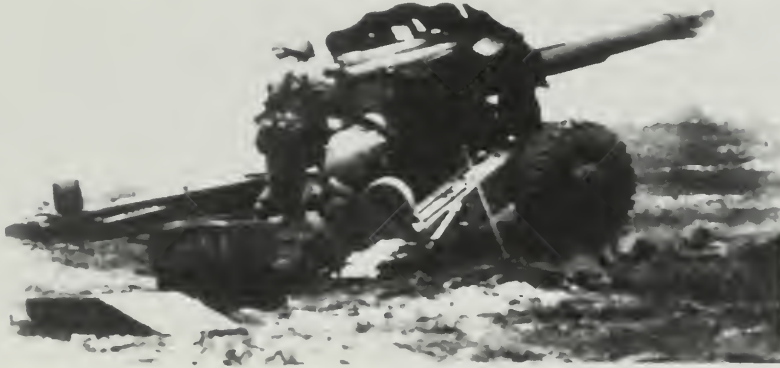
152-mm Howitzer-Gun M84

Standard general-support weapon.

Range:	17,190 m (24,400 m with ER projectiles)
Weight:	7,126 kg
Crew:	9
Ammunition types:	HE, HE-Frag, HEAT, HE-ER, DPICM, Smoke (WP), Illum

The M84 is an improved version of the Soviet D-20. The M84 has a longer cannon and fires both Soviet- and Yugoslav-pattern ammunition. The M84 and D-20 are almost indistinguishable when viewed separately. The M84 is also known as the "Nora" and may be fitted with an auxiliary propulsion unit.





152-mm Gun-Howitzer D-20

Standard general-support weapon.

Range:	17,410 m
Weight:	5,700 kg
Crew:	5-7
Ammunition types:	HE-Frag, HEAT, DPICM, others

The D-20 was obtained by the JNA from Soviet Union and was the design basis for the M84. Although in general service, it may be difficult to differentiate between the D-20, M84, and D-74.





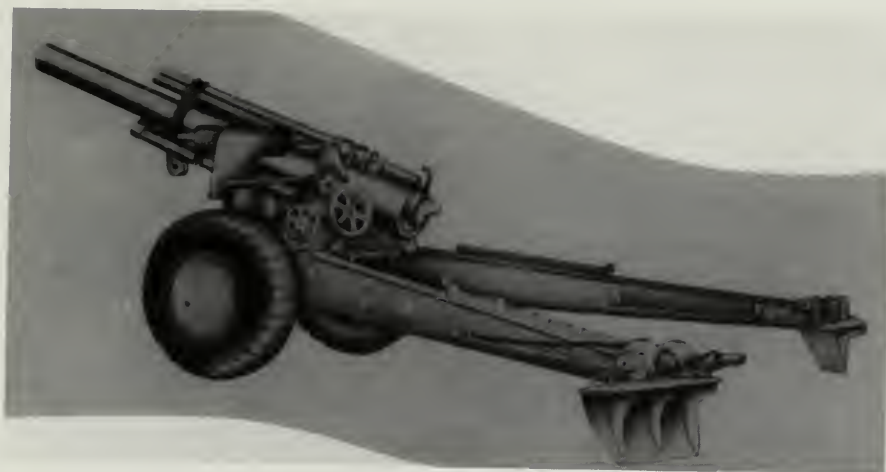
155-mm Gun-Howitzer M-46/84

Limited standard long-range weapon.

Range:	30,300 m (39,600 m with ERFB projectiles)
Weight:	8,428 kg (in travel)
Crew:	9
Ammunition types:	HE, HE-ERFB, HE-ERFB-BB

The M-46/84 is a retubed M-46. The 45-caliber cannon is fitted with the double-baffle muzzle brake from the M84 (hence the designator). Like the M-46, it requires a limber for travel. The only visible difference between the M-46 and the M-46/84 is the muzzle brake (pepperpot or double-baffle).





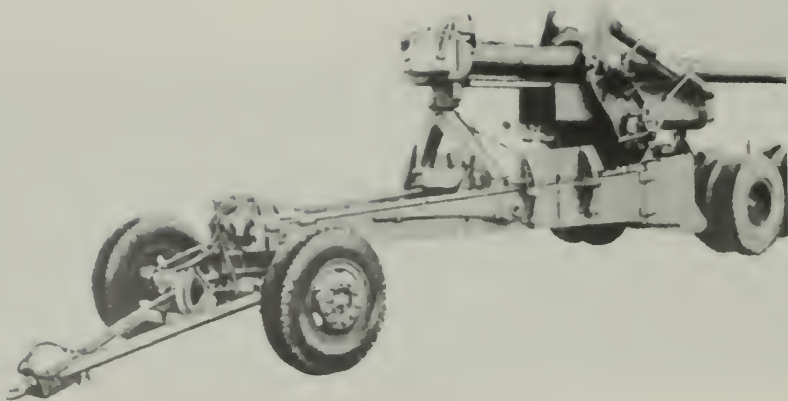
155-mm Howitzer M65

Standard and general-support weapon.

Range:	14,955 m
Weight:	5,500 kg
Crew:	7
Ammunition types:	HE (can fire all 155-mm)

The M65 is a locally produced version of the U.S. M1/M114. Other than slight differences caused by different manufacturing processes, the U.S. and Yugoslav systems are the same. The M65 is in widespread service and can fire all 155-mm ammunition available in the region.





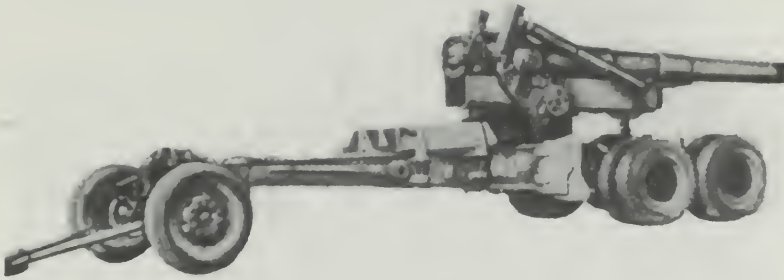
155-mm Gun M59

Limited standard general-support weapon.

Range:	23,500 m 30,000 m (with ERFB)
Weight:	12,700 kg
Crew:	8-10
Ammunition types:	HE, HE-ERFB

Known in World War II as the "Long Tom," the M59 is in widespread use, despite its limited numbers. As the pattern for modern 45-caliber cannons, it can probably fire ERFB projectiles. It shares a common carriage with the M115, but can be distinguished because the cannon is withdrawn from battery for travel.





203-mm Howitzer M115

Limited standard general-support weapon.

Range:	16,800 m
Weight:	13,472 kg
Crew:	8-10
Ammunition types:	HE

The largest cannon system in service, the M115 can be identified by its short cannon tube and 8-wheeled carriage. In travel a two-wheeled limber is also required. The M115 and M59 share a common carriage. In the hands of a well-trained crew the M115 is the world's most-accurate cannon system in indirect fire.





60-mm (4-rd) Rocket Launcher M92A1

Limited standard general-support weapon.

Range:	8,540 m
Weight:	49 kg (2 one-man loads)
Ammunition types:	HE
Crew:	2-3

The M92A1, also known as *Obad*, is a small, man-portable launcher. A larger, 24-tube version on the launcher has been noted mounted on top of the M91A3, but in no other configuration.



70-mm (40-rd) Rocket Launcher M93A2

Limited standard general-support weapon.

Range:	8,000 m
Weight:	approx 2,000 kg
Ammunition types:	HE
Crew:	3-5

The M93A2, also known as the *Caplja* or *Caplja-B*, is a simple rocket launcher designed to fire 2.75-in air-to-ground rockets in a surface-to-surface role.





107-mm (12-rd) Rocket Launcher Type 63

Limited standard general-support weapon.

Range:	8,500 m
Weight:	372 kg
Ammunition types:	HE
Crew:	3-5

The Chinese Type 63 (or one of several foreign copies) was imported into Bosnia through Croatia. The system is well-suited to this type of warfare and saw extensive service in Vietnam and Afghanistan. Although towed, the system can be broken down into 5 one-man and 3 two-man loads for transport.





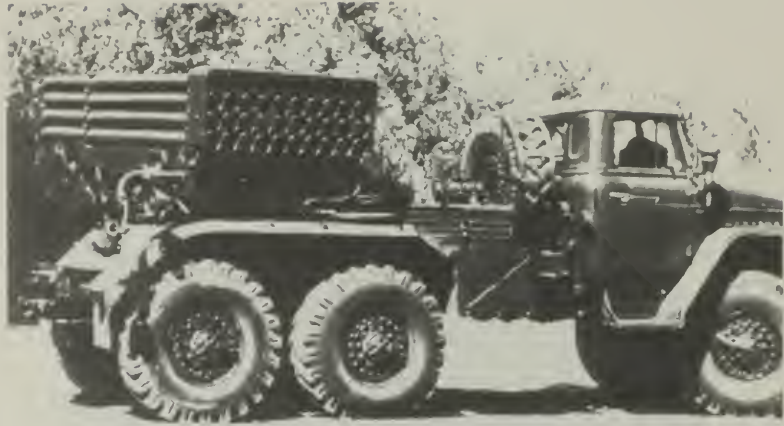
122-mm (40-rd) Rocket Launcher APR-40

Limited standard general-support weapon.

Range:	20,400 m
Weight:	17,600 kg
Ammunition types:	HE, HE-CF
Crew:	5

A limited number of the Romanian APR-40 have been noted in the region. The Romanian version of the BM-21, the APR-40 was reportedly sold to the JNA/VJ/BSA and then captured by the HV/HVO. The system can be identified by the cab-over-engine configuration and the air tanks located to the rear of the vehicle cab. The system is known in the HV as the *Vulkan*.





122-mm (40-rd) Rocket Launcher BM-21

Limited standard general-support weapon.

Range:	20,400 m
Weight:	13,700 kg
Ammunition types:	HE, HE-CF
Crew:	5

A limited number of the Soviet BM-21 have been noted in the region. The systems are probably predominantly in the hands of the Serb factions and the HV.





128-mm (32-rd) Rocket Launcher M77

Standard general-support rocket launcher.

Range:	20,600 m
Weight:	22,000 kg
Crew:	5
Ammunition types:	Controlled-fragmentation, DPICM

Known as the *Oganj* [Fire], the M77 is widely deployed in the region and is used by all factions. The system has an automatic reloader to the rear of the launcher, and in travel the accordion-type canvas cover can be closed to give the appearance that the launcher is nothing more than a cargo truck. The Croatian *Tajfun* [Typhoon] is based on the M77 and differs only in the truck model.





128-mm (32-rd) Rocket Launcher M63

Standard general support rocket launcher.

Range:	12,800 m
Weight:	2,140 kg
Crew:	
Ammunition types:	Controlled-fragmentation, DPICM

Known as the *Plamen* [Flame], the M63 is the most widely deployed rocket launcher in the region. The trailer-mounted system is rugged and simple to operate. A variant of the system uses the TAM-110 4x4 truck as a chassis and is known as the M85.





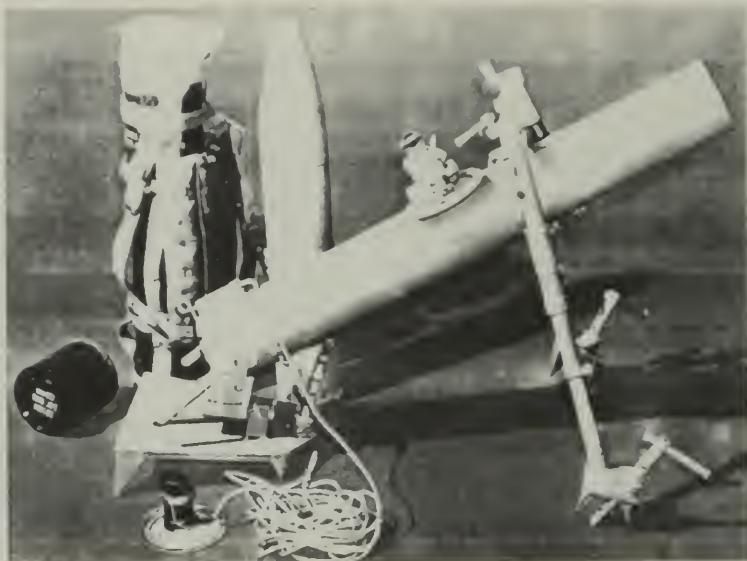
128-mm (12-rd) Rocket Launcher M91-A3

Standard general-support weapon.

Range:	8,000 m
Weight:	approx 300 kg
Ammunition types:	HE
Crew:	3-5

Undoubtedly impressed with the greater mobility of the Type 63 (compared to the larger M63/*Plamen*) Croatia has developed a 12-tube version of the 128-mm system. It is also known as the "RAK-12" and has been noted mounted in the bed of small cargo trucks.





128-mm (single-rod) Rocket Launcher M71

Limited standard general-support rocket launcher.

Range:	12,800 m
Weight:	45 kg (loaded)
Crew:	2
Ammunition types:	Controlled-fragmentation, DPICM

Known as the *Partizan* [Partisan—Tito's wartime group], the M71 looks more like a mortar than a rocket launcher. The small base and bipod have screws that hold it in place during firing. Designed for guerrilla warfare, it is in widespread service and is very easy to hide.





262-mm (12-rd) Rocket Launcher M87

Limited standard long-range rocket launcher.

Range:	50,000 m
Weight:	32,000 kg
Crew:	4-5
Ammunition types:	DPICM, AT Mine

Known as the *Orkan* [Hurricane], the M87 is the most-sophisticated rocket launcher in the region. Although never employed in large numbers, the M87 is extremely lethal. The DPICM bomblets have a tremendous antipersonnel effect and a VERY HIGH dud rate. They should be avoided by all but EOD personnel. The AT mine warhead has never been noted in service.





544-mm (single-rd) Rocket Launcher 9P113

Limited standard long-range rocket launcher.

Range:	67,000 m
Weight:	19,000 kg
Crew:	4
Ammunition types:	Shaped-charge fragmentation

Known as the *Luna-M* [Moon], the 9P113 (apparently also called the 9P113M and R-65) is sometime identified by its former U.S. temporary designator, FROG-7. The launcher fires unguided rockets which are notoriously inaccurate. The system has only been confirmed with VRS and VJ units. The number of rockets available is unknown.





57-mm Improvised Rocket Launcher

Limited standard general-support weapon.

Range:	1,500 m
Ammunition types:	HE
Crew:	3-4

The VRS has developed a number of improvised rocket launchers using otherwise-unusable aircraft ordnance. The first such system noted combined four 57-mm rocket pods and a BOV-1 APC. This system has only been noted in the Sarajevo area and is probably intended for sniper suppression. A towed version on a two-wheeled trailer has also been observed.





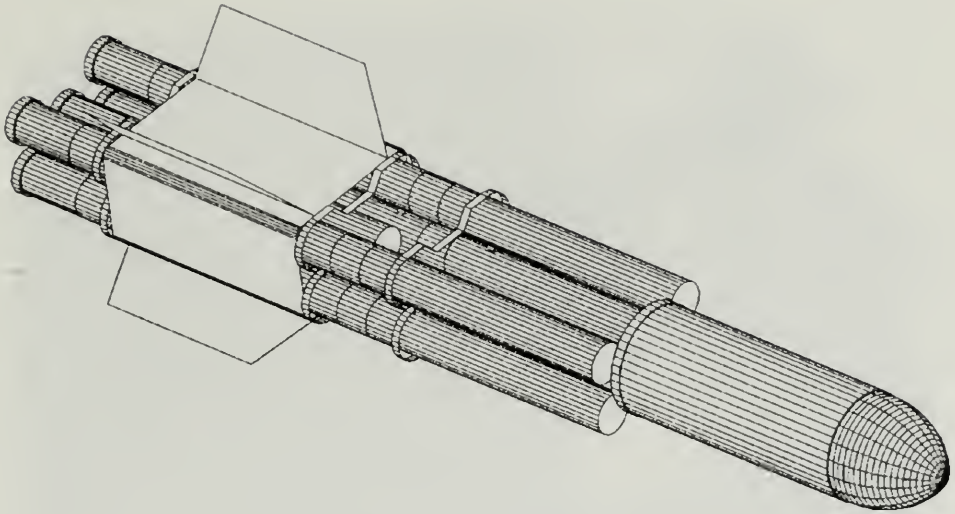
Improved Rocket Launcher *Krema-I*

Limited standard improvised rocket launcher.

Range:	approx 2,500 m
Crew:	3-4
Ammunition types:	HE, NAPALM (poss)

The VRS has used a twin-rail rocket launcher combining 100-kg gravity bombs and the motor section of 128-mm air-to-ground rocket. The system is known as the *Krema-I*, the designator indicating that it is powered by a single rocket. The rails are mounted on a probable TAM-150 6x6 truck. This is the only launcher ever observed with the *Krema* rockets. The *Krema-II* and *Krema-III* use 2- and 3-rocket motors, respectively, and may use the same launcher.



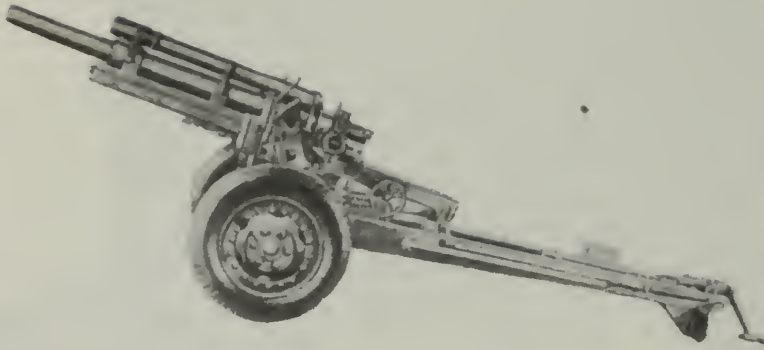


Improved Rocket *Krema-IV*

Range:	approx 6,500 m
Crew:	3-5
Ammunition types:	HE, NAPALM (poss), FAE

The VRS's largest, most-powerful improvised rocket launcher system is the *Krema-IV*. It combines the warhead from a 275-kg gravity bomb with the motors from four 122-mm rockets. During descent, a parachute deploys to stabilize the rocket. To date, the system has only been noted in city bombardments. The launcher for this system has never been seen. This system is probably still developmental.





105-mm Howitzer M1/M101

Standard close-support weapon.

Range:	11,270 m
Weight:	2034 kg
Ammunition types:	HE, HEAT, Illum, Smoke (WP)
Crew:	5-7

The M1/M101 was sold to Yugoslavia in the early 1950s. Despite its age it has remained in general service alongside the M56.





51-mm Mortar L9A1

Standard infantry platoon-level support weapon.

Range:	800 m
Weight:	6.3 kg (one-man load)
Ammunition types:	HE, Illum, Smoke

Trigger-fired, can be used in direct-fire mode.





60-mm Commando Mortar

Standard light infantry company-level support weapon.

Range:	1,050 m
Weight:	6.6 kg
Ammunition types:	HE

The Commando Mortar was developed for light forces and is probably available to Portuguese forces in IFOR.





81-mm Mortar L16A1/M252

Standard infantry company-level support weapon

Range:	5,600 m
Weight:	35.44 kg (3 one-man loads)
Ammunition types:	HE, Illum, Smoke

Widely exported, several SP versions also exist.





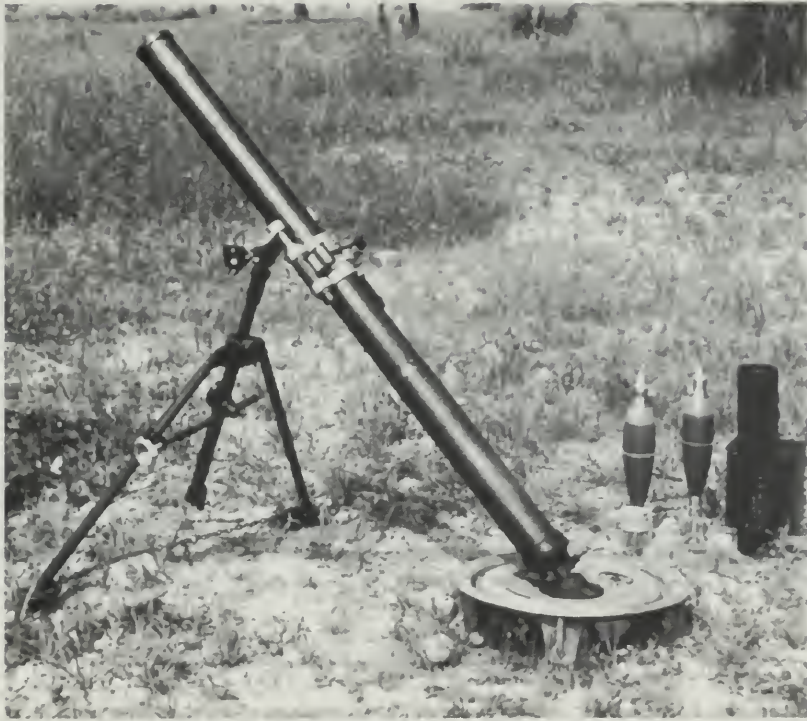
81-mm Mortar MO 81 LC

Standard infantry company-level support weapon.

Range:	5,300 m
Weight:	38.2 kg (3 one-man loads)
Ammunition types:	HE, Illum, Marking Smoke

Very similar in appearance to standard Yugoslav mortars.



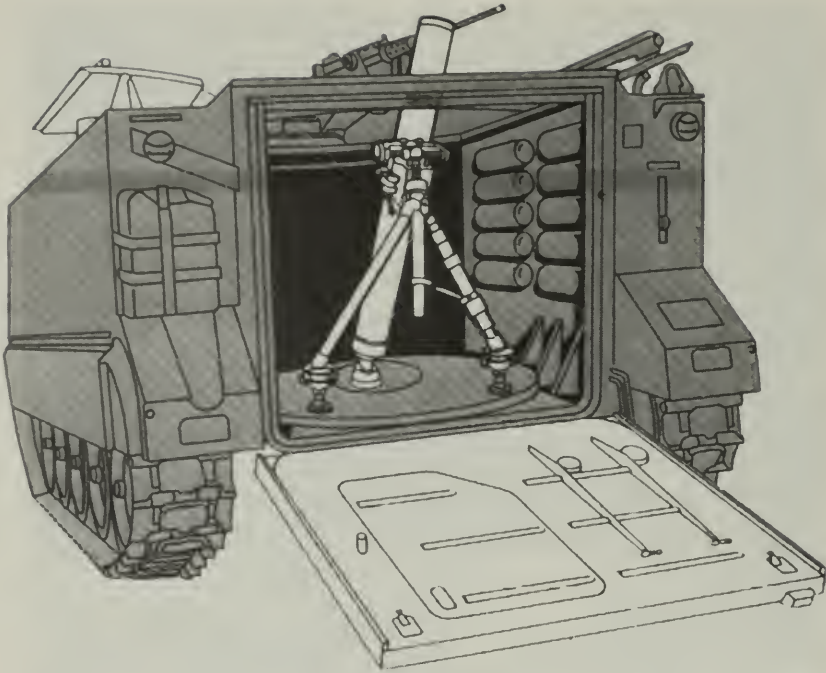


81-mm Mortar Model 62

Standard mechanized infantry company-level support weapon.

Range:	5,000 m
Weight:	43 kg (3 one-man loads)
Ammunition types:	HE





81-mm SP Mortar M113 MC

Standard infantry battalion-level support weapon.

Range:	5,000 m
Weight:	12,000 kg
Secondary Armament:	.50-cal MG
Crew:	5-6
Ammunition types:	HE, Illum, Smoke (WP)

The M113 MC mounts the Model 62 mortar in a modified U.S.-produced M106 mortar carrier. Like all M113-based mortar carriers, in travel the system looks like the standard APC, with only the externally mounted baseplate indicating the vehicle's role.





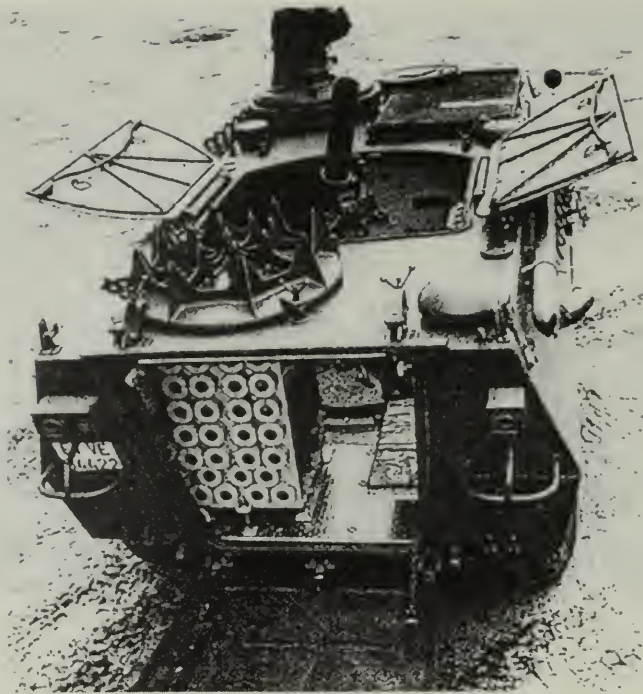
81-mm SP Mortar YPR

Standard infantry battalion-level support weapon.

Range:	3,558 m
Weight:	12,000 kg
Secondary Armament:	7.62-mm or .50-cal MG
Crew:	5-6
Ammunition types:	HE, Illum, Smoke (WP)

The YPR mortar carrier mounts the U.S. M29 mortar in a modified YPR 765 APC. Like all APC-based mortar carriers, in travel the system looks like the standard APC, with only the roof-mounted baseplate indicating the vehicle's true role.





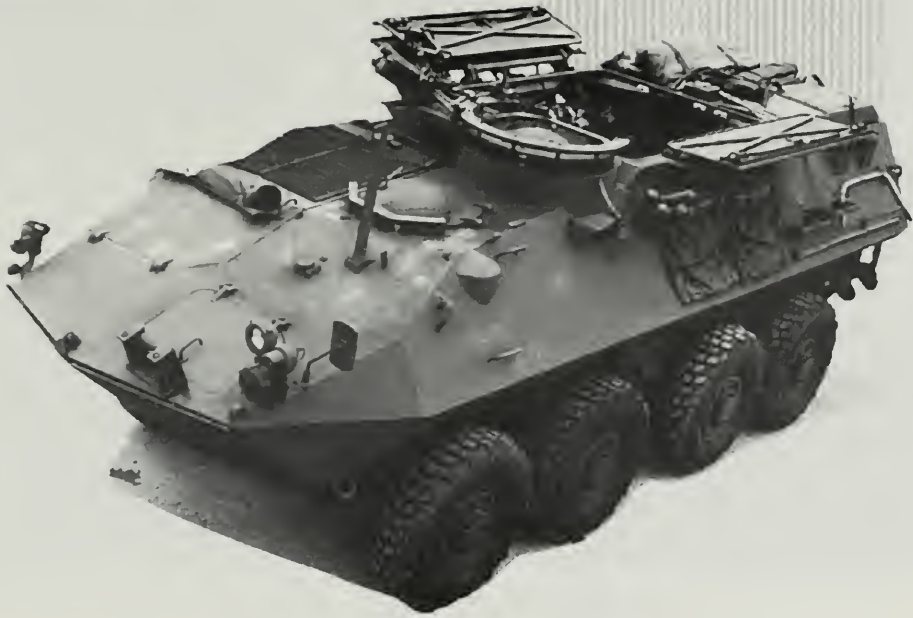
81-mm SP Mortar BMR

Standard infantry battalion-level support weapon.

Range:	6,200 m
Weight:	12,000 kg
Secondary Armament:	7.62-mm or .50-cal MG
Crew:	5-6
Ammunition types:	HE, Illum, Smoke (WP)

The BMR mortar carrier mounts the LN M-86 mortar in a modified BMR 6x6 APC. Like all APC-based mortar carriers, in travel the system looks like the standard APC, with only the roof-mounted baseplate indicating the vehicle's true role.





81-mm SP Mortar LAV-M

Standard infantry battalion-level support weapon.

Range:	5,600 m
Weight:	12,136 kg
Secondary Armament:	7.62-mm MG
Crew:	5
Ammunition types:	HE, Illum, Smoke (WP)

The LAV 8x8 APV mortar carrier mounts the L16A2 mortar on a turntable in the center of the vehicle. The roof hatches must be open during firing. During travel the LAV-M looks like the standard APC with the exception of the externally mounted mortar baseplate.





82-mm Mortar 2B14-1

Standard infantry battalion-level support weapon.

Range:	4,000 m
Weight:	47.2 kg (3 one-man loads)
Ammunition types:	HE, Illum, Smoke (WP)

Also known as the *Podnos*, the 2B14-1 is a smooth-bore mortar with no grooves or other exterior markings on the tube. The mortar can be fitted with small anti-double-loading device at the end of the muzzle.





107-mm SP Mortar K200

Korean-produced mortar carrier originally purchased for use by Malaysian UNPROFOR contingent.

Range:	5,500 m
Weight:	12,000 kg
Secondary Armament:	.50-cal MG
Crew:	5
Ammunition types:	HE

The K200 is a South Korean variant of the M113. The mortar carrier version mounts a 107-mm mortar on a turntable. During travel the mortar carrier looks like the standard IFV. The K200 looks very similar to the Dutch YPR-765.





120-mm Mortar MO 120 RT

Standard infantry battalion-level support weapon.

Range:	8,135 m 13,000 m (with RAP)
Weight:	582 kg (towed on integral wheels)
Ammunition types:	HE, HE-RA, Illum

In French forces, normally towed by VAB 4x4 APC, in some units by AMX-10 tracked APC; in all other armies it is towed by a truck. Rifled mortar, fires pre-engraved projectiles.





105-mm Howitzer L118

Standard close-support weapon for 24th Airmobile Brigade.

Range:	17,200 m
Weight:	1,860 kg (towed tube-over-trails)
Ammunition types:	HE, HEP-T, Illum, Colored Smoke, Smoke (BE)
Crew:	7

The L118, or Light Gun as it is also known, was the basis for the U.S. M119 howitzer fielded in light divisions. The howitzers were initially deployed to Bosnia with the Rapid Reaction Force. The bowed trail is unique to this howitzer.





120-mm SP Combination Gun 2S9

Standard close-support weapon in airborne forces.

Range:	7,000 m (mortar) 8,800 m (howitzer) 13,000 m (mortar) (RAP) 12,000 m (howitzer) (RAP)
Weight:	8,000 kg
Crew	4
Ammunition types:	HE, HE-RA, Smoke, others
Crew:	7

The 2S9 is one of several combination guns in Russian service. It can fire standard mortar projectiles and special howitzer projectiles. The 2S9's chassis is derived from the BMD airborne IFV.





155-mm SP Howitzer M109A3

Standard close-support weapon for U.S. heavy divisions.

Range:	18,100 m 23,500 m (with RAP)
Weight:	25,000 kg
Secondary Armament:	.50-cal MG
Crew:	9
Ammunition types:	HE, HE-RA, DPICM, others

Variants of the M109A2/A3 are in service with most NATO countries. Each of these foreign systems has slight differences in equipment and in the cannon design.





155-mm SP Howitzer M109L

Standard close-support weapon for Italian heavy brigades.

Range:	24,700 m 30,000 m (with RAP)
Weight:	24,800 kg
Secondary Armament:	.50-cal MG
Crew:	8
Ammunition types:	HE, HE-RA, Smoke (WP), others

The M109L is an Italian upgrade to the German variant of the original M109. It can be identified by the single-baffle muzzle brake.



155-mm SP Howitzer AU-F1

Standard general-support weapon for French heavy divisions.

Range:	24,000 m 32,000 m (with BB)
Weight:	43,500 kg
Secondary Armament:	.50-cal MG
Crew:	4
Ammunition types:	HE, HE-BB, DPICM-BB, others

The AU-F1 has fully automated ammunition loading. This gives it a very large turret. The chassis is derived from the AMX-30 tank.



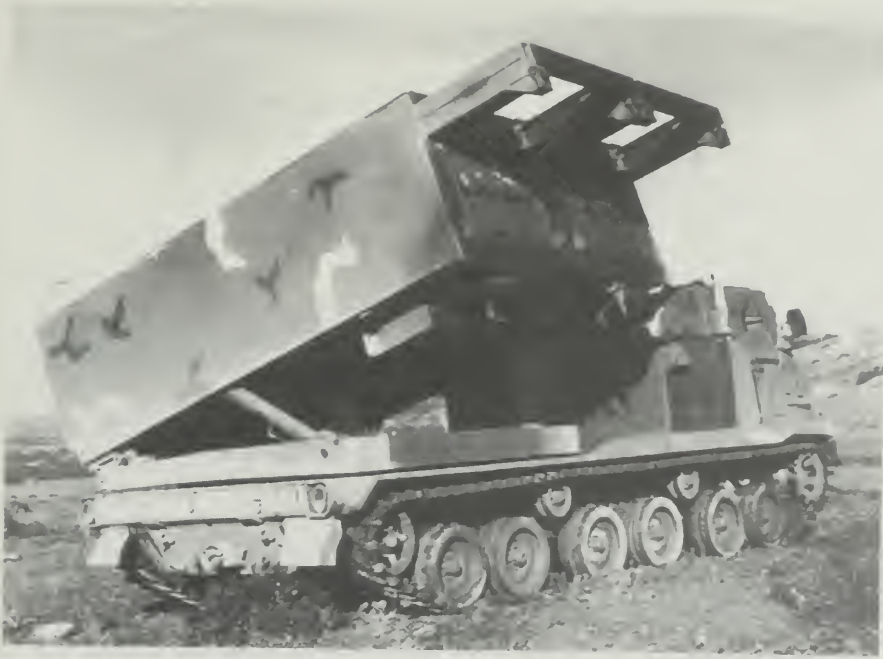


155-mm SP Howitzer AS-90

Standard close-support weapon for British heavy divisions.

Range:	24,700 m 32,000 m (with BB)
Weight:	42,000 kg
Secondary Armament:	.50-cal MG
Crew:	5
Ammunition types:	HE, HE-BB, others

The AS-90 is the new British SP howitzer, with a specially designed tracked chassis. Unlike other 155-mm SP howitzers, the recoil cylinders are completely enclosed.



227-mm (12-rd) Rocket Launcher M270/MLRS

Standard general-support weapon.

Range:	32,000 m
Weight:	approx 25,000 kg
Ammunition types:	DPICM
Crew:	3

The most-responsive rocket launcher system in the region.



SECTION 16

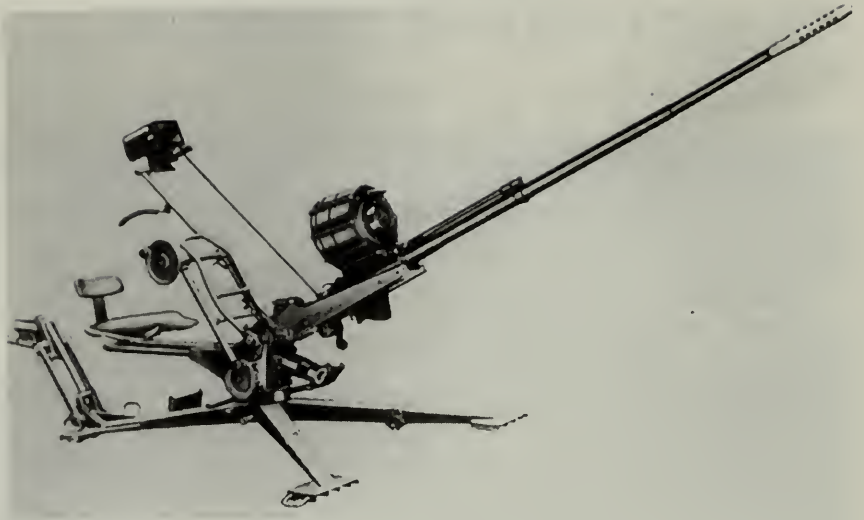
FWF AND SFOR AIR DEFENSE



M55 Triple-Barreled 20-mm AA Gun

Caliber:	20x110-mm
Rate of fire:	1,950 to 2,400 rds/min
Tactical AA range:	1,500 m
Fire control:	Optical mechanical computing sight
Azimuth limits:	Unlimited
Elevation limits:	-5 to 83°
Weight:	1,100 kg





M75 Lightweight 20-mm AA Gun

Caliber:	20x110-mm
Rate of fire:	650 to 800 rds/min
Tactical AA range:	1,200 m
Fire control:	Speed rings or reflex sight
Azimuth limits:	Unlimited
Elevation limits:	-5 to 83 ^o
Weight:	360 kg





BOV-3 Triple-Barreled 20-mm SPAAG

Caliber:	20x110-mm
Rate of fire:	1,950 to 2,400 rds/min
Tactical AA range:	1,500 m
Fire control:	Optical mechanical computing sight
Azimuth limits:	Unlimited
Elevation limits:	-5 to 83°
Weight:	9,400 kg





M53/59 Twin 30-mm SPAAG

Caliber:	30x210-mm
Rate of fire:	840 to 900 rds/min
Tactical AA range:	3,000 m
Fire control:	Optical speed rings
Azimuth limits:	Unlimited
Elevation limits:	-10 to 85°
Weight:	10,305 kg





BOV-30/2 Twin 30-mm SPAAG

Caliber:	30x210-mm
Rate of fire:	1,500 to 1,600 rds/min
Tactical AA range:	3,000 m
Fire control:	Optical mechanical computing sight
Azimuth limits:	Unlimited
Elevation limits:	-5 to 83°
Weight:	8,960 kg

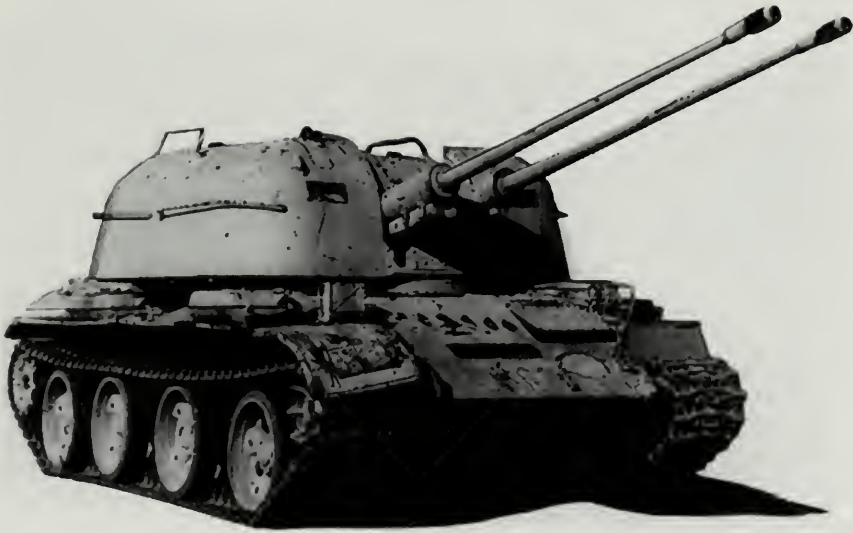




S-60 57-mm AA Gun

Caliber:	57x348-mm
Rate of fire:	105 to 120 rds/min
Tactical AA range:	6,000 m
Fire control:	Optical mechanical computing sight or FLAP WHEEL FCS or FIRE CAN radar w/PUAZO
Azimuth limits:	Unlimited
Elevation limits:	-4 to 87°
Weight:	4,773 kg





ZSU-57-2 Twin 57-mm SPAAG

Caliber:	57x348-mm
Rate of fire:	210 to 240 rds/min
Tactical AA range:	4,000 m
Fire control:	Optical mechanical computing sight
Azimuth limits:	Unlimited
Elevation limits:	-5 to 85°
Weight:	28,000 kg

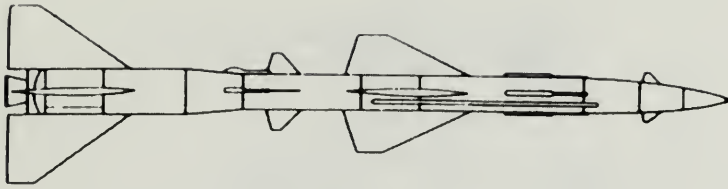




ZGU-1 14.5-mm HAAMG

Caliber:	14.5x114-mm
Rate of fire:	550 to 600 rds/min
Tactical AA range:	1,400 m
Fire control:	Reflex sight
Azimuth limits:	Unlimited
Elevation limits:	-20 to 90 ⁰
Weight:	228 kg

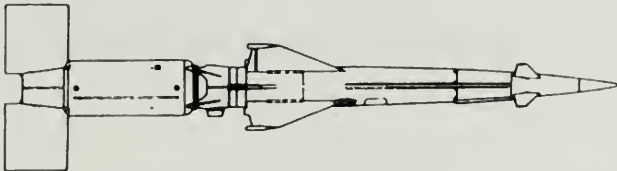




GUIDELINE SA-2 MISSILE

CHARACTERISTICS:

Length:	10.7 m
Diameter:	5 m (booster), 65 m (fins)
Range:	43-55 km
Warhead:	190 kg, HE FRAG
Guidance:	Command RF from FAN SONG
Fuzing:	Proximity, command
Velocity:	Mach 4.0
Comment:	This missile has also been used in surface-to-surface mode.



GOA SA-3 MISSILE

CHARACTERISTICS:

Length:	6.1 m
Diameter:	.55 m (booster), 37 m (missile)
Range:	25 km
Warhead:	73 kg, HE, FRAG
Guidance:	Command RF from LOW BLOW
Fuzing:	Proximity RF, command
Velocity:	Mach 3.5





GAINFUL SA-6 MISSILE

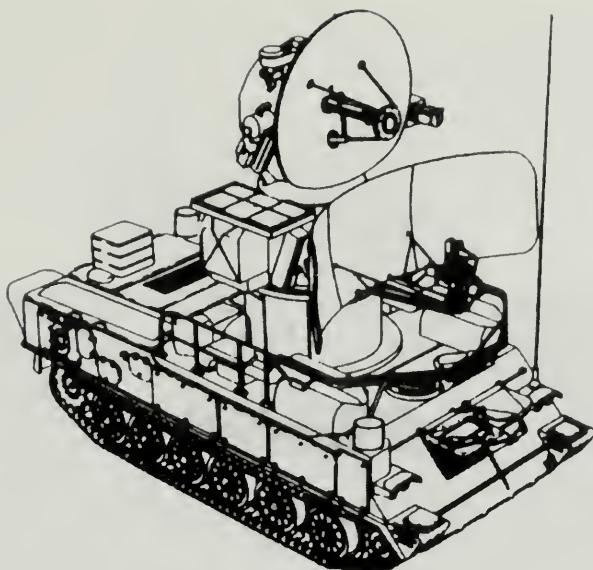
CHARACTERISTICS:

Length:	5.85 m
Diameter:	33 m (body), 1.25 m (fins)
Range:	24 km
Warhead:	50 kg, HE, FRAG
Guidance:	Semiactive RF (target illuminated by STRAIGHT FLUSH)
Fuzing:	Proximity RF
Velocity:	Mach 2.7

NOTES: 2 or more missiles may be launched at a target during an engagement.

WHERE FOUND: 3 per TEL, 4 TELs per SA-6 battery, 5 batteries per SA-6 regiment (12 missiles/battery, 60 missiles/regiment)





STRAIGHT FLUSH (SA-6)

CHARACTERISTICS:

Function:	Fire control/target acquisition
Range:	60-90 km acquisition, 24 km engagement
Frequency:	G/H band (acquisition), H/I (tracking), H (illumination)
Associated system:	SA-6 GAINFUL Missile System, LONG TRACK and THIN SKIN acquisition radars

NOTES: Can illuminate one target at a time.

RECOGNITION:

Same chassis as SA-6 TEL
12 ft/long search radar, 7 ft diameter tracking and illumination radar

WHERE FOUND: 1 per SA-6 battery,
5 batteries per SA-6 regiment,
1 regiment per division





SA-7 GRAIL (STRELA-2M/A)

CHARACTERISTICS:

Function:	Manportable SAM
Range:	3.7 km
Guidance:	IR
Warhead:	HE
NOTE:	The STRELA is the former Yugo's version of the SA-7b. STRELA-2M/A electronic block in seeker is miniaturized.

RECOGNITION:

Manportable shoulder launched system
Smoke signature at launch

WHERE FOUND: Distributed throughout the battlefield





SA-9 GASKIN

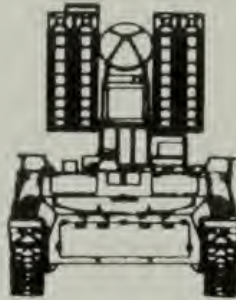
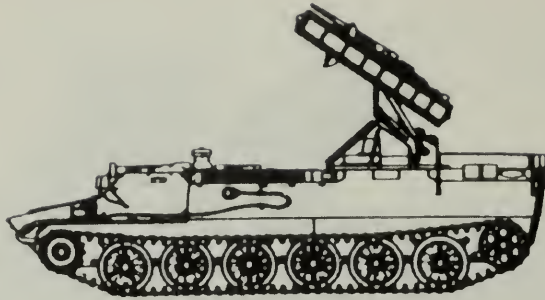
CHARACTERISTICS:

Range:	6 km
Ceiling:	5 km
Guidance:	IR Seeker
Warhead:	HE, 2.5 kg

NOTES: Uses passive RF direction finding system

RECOGNITION: BRDM-2 Chassis, 4 Canisterized missiles mounted on pedestal





SA-13 GOPHER (SAVA)

CHARACTERISTICS:

Range:	7 km
Ceiling:	5 km
Guidance:	IR Seeker
Warhead:	3 kg, HE FRAG

NOTES: Uses passive RF direction finding system. The SAVA is the former Yugo's version of the SA-13a.

RECOGNITION:

MT-LB chassis
4 Canisterized missiles mounted on pedestal

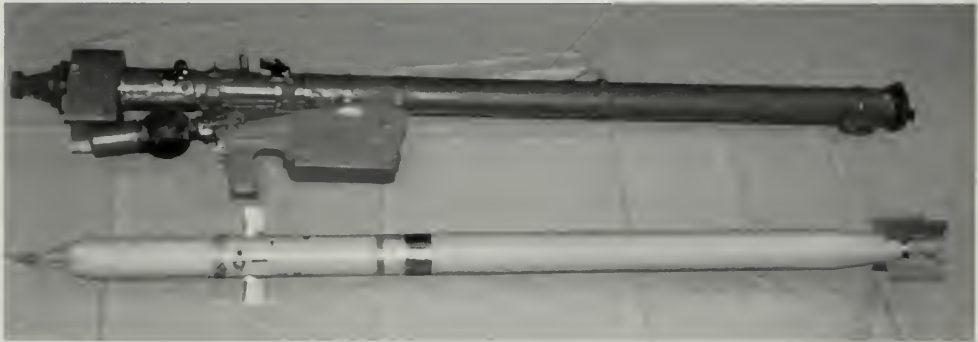




GREMLIN SA-14 MISSILE

CHARACTERISTICS:

Length:	1.4 m
Diameter:	7.5 cm
Range:	4 km
Warhead:	2 kg, HE
Guidance:	IR Homing
Fuzing:	Contact
Velocity:	Mach 1.5



SA-16 MISSILE

CHARACTERISTICS:

Length:	1.6 m
Diameter:	7.0 cm
Range:	7 km
Warhead:	2 kg, HE, FRAG
Guidance:	IR Homing
Fuzing:	Contact
Velocity:	Mach 2

WHERE FOUND: Everywhere





SA-18 MISSILE

CHARACTERISTICS:

Length:	1.7 m
Diameter:	7 cm
Range:	6 km
Warhead:	1 kg, HE
Guidance:	IR Homing
Fuzing:	Contact
Velocity:	Mach 2

WHERE FOUND: Anywhere in country





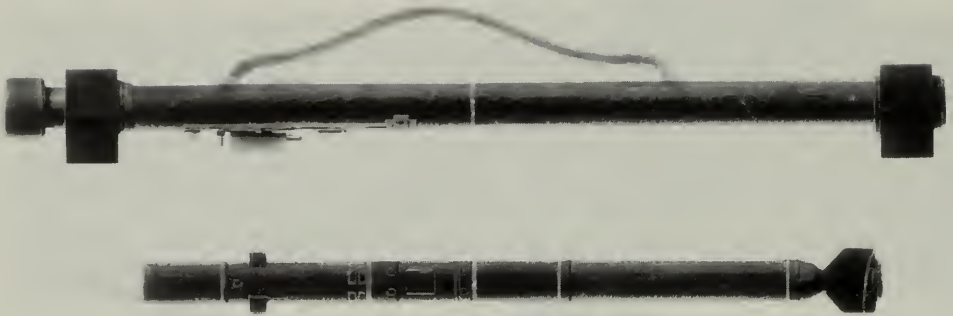
STINGER BASIC MISSILE

CHARACTERISTICS:

Length:	1.5 m
Diameter:	7.0 cm
Range:	6 km
Warhead:	1 kg, HE
Guidance:	IR Homing
Fuzing:	Contact
Velocity:	Mach 2.0

WHERE FOUND: Small numbers anywhere in country



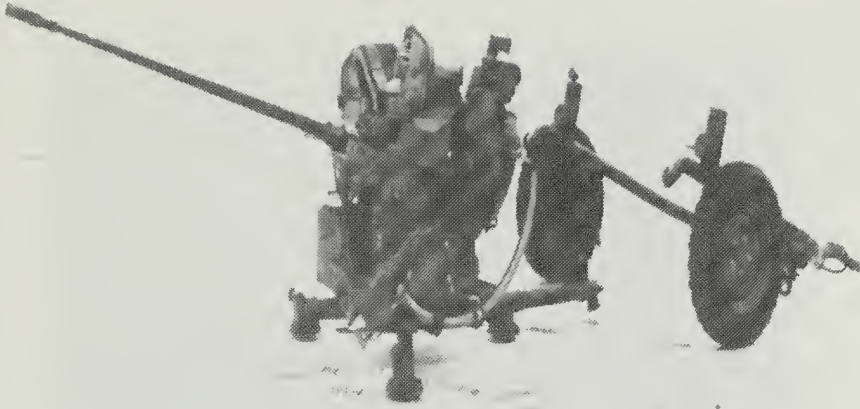


MISTRAL Missile

Characteristics:

Length:	1.86 m
Diameter:	9.0 cm
Range:	6 km
Warhead:	3 kg, HE, FRAG
Guidance:	Passive IR Homing
Fuzing:	Contact/laser proximity
Velocity:	Mach 2.5

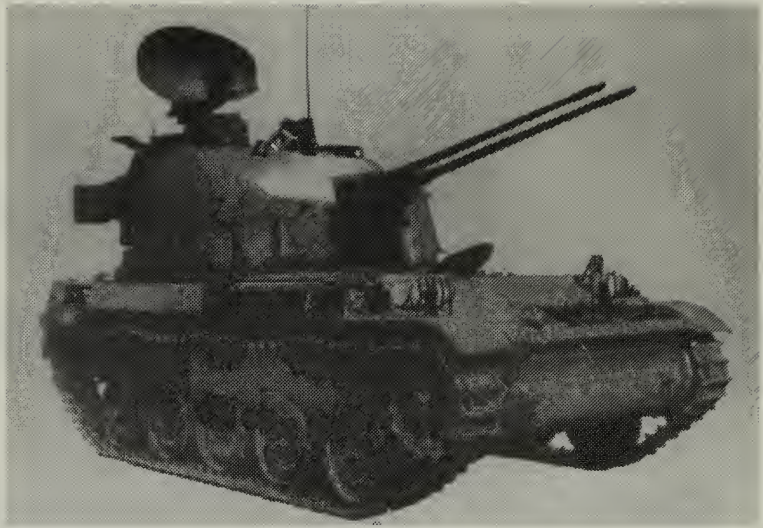




53T2 20-mm AA Gun

Caliber:	20x139-mm
Rate of fire:	650 to 750 rds/min
Tactical AA range:	2,000 m
Fire control:	Optical speed rings
Azimuth limits:	Unlimited
Elevation limits:	-8 to 83o
Weight:	840 kg

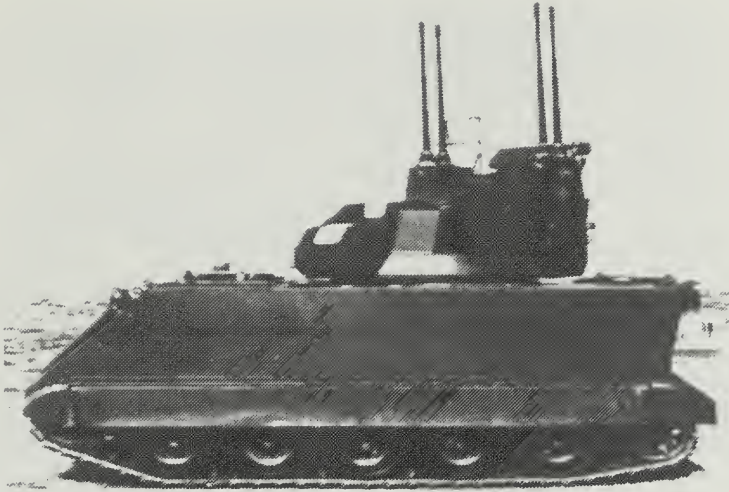




AMX-13 DCA Twin 30-mm SPAAG

Caliber:	30x170-mm
Rate of fire:	1,200 to 1,300 rds/min
Tactical AA range:	3,000 m
Fire control:	TAR and DVO
Azimuth limits:	Unlimited
Elevation limits:	-8 to 85°
Weight:	17,000 kg

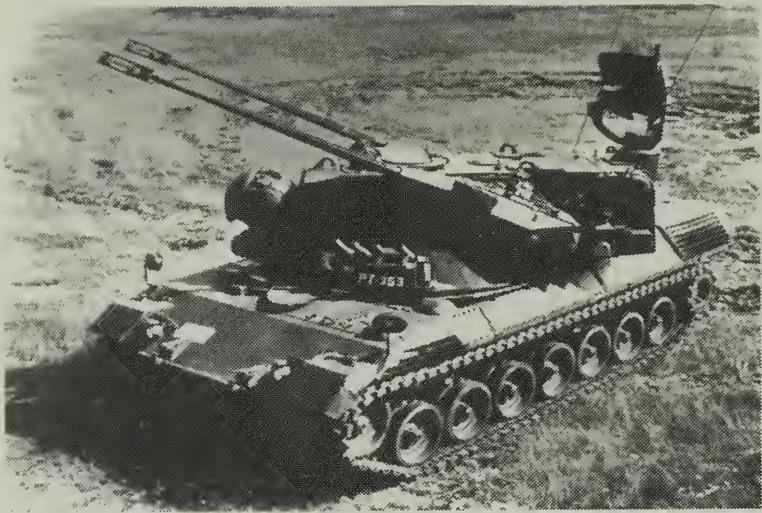




SIDAM 25 Quad 25-mm SPAAG

Caliber:	25x137-mm
Rate of fire:	2,280 to 2,400 rds/min
Tactical AA range:	2,500 m
Fire control:	EO w/ LSR Rangefinder
Azimuth limits:	Unlimited
Elevation limits:	-5 to 87°
Weight:	14,500 kg

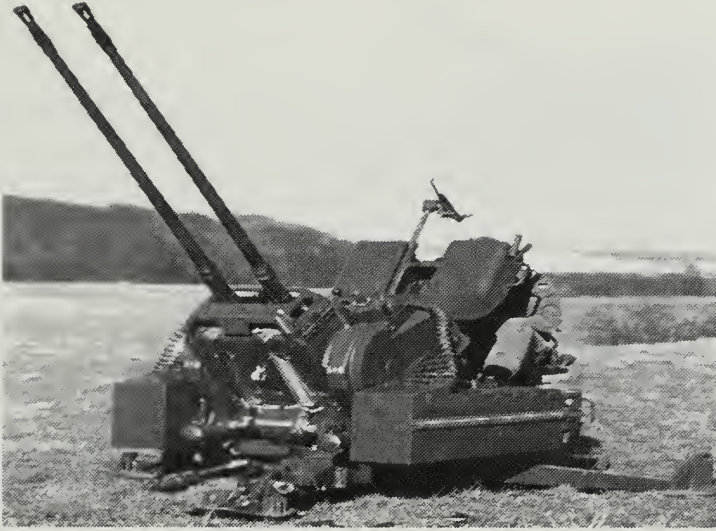




GEPARD Twin 35-mm SPAAG

Caliber:	35x228-mm
Rate of fire:	1,100 rds/min
Tactical AA range:	3,500 m
Fire control:	TAR, TTR, and DVO
Azimuth limits:	Unlimited
Elevation limits:	-5 to 85o
Weight:	47,000 kg

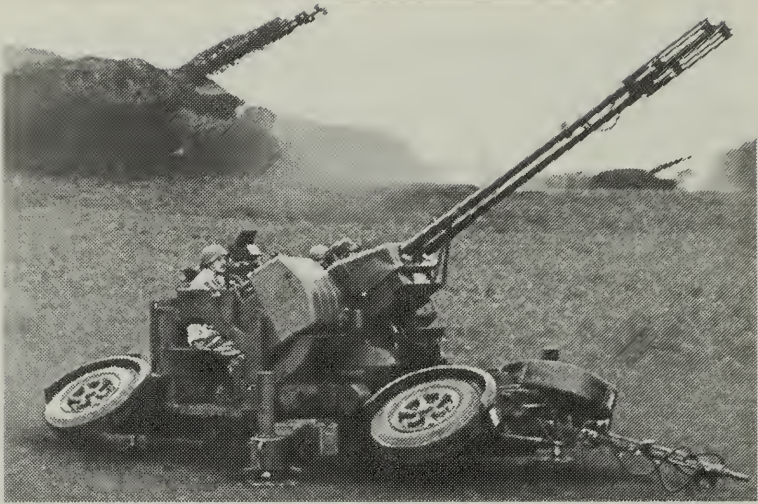




MK 20 Twin 20-mm AA Gun

Caliber:	20x139-mm
Rate of fire:	2,000 rds/min
Tactical AA range:	2,000 m
Fire control:	Optical mechanical computing sight or EO w/ LSR rangefinder
Azimuth limits:	Unlimited
Elevation limits:	-3 to 82°
Weight:	2,100 kg

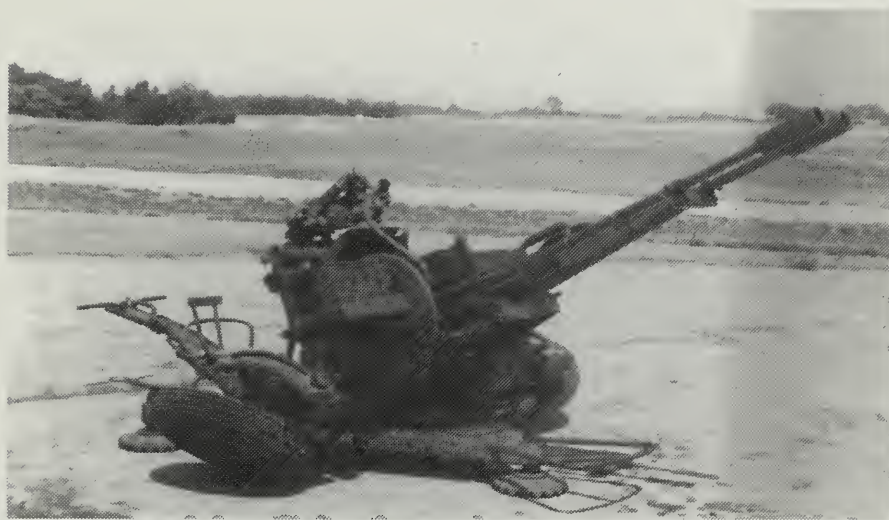




GDF-003 Twin 35-mm AA Gun

Caliber:	35x228-mm
Rate of fire:	1,100 rds/min
Tactical AA range:	3,500 m
Fire control:	Lead computing sight or Skyguard FCS
Azimuth limits:	Unlimited
Elevation limits:	-5 to 92°
Weight:	6,500 kg

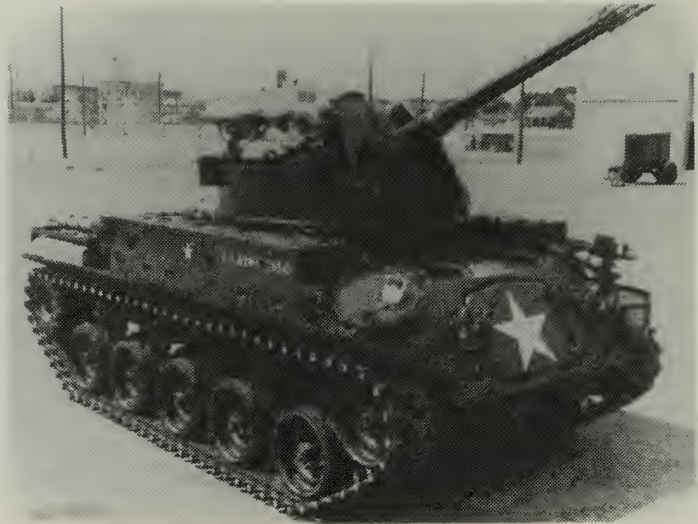




ZU-23 Twin 23-mm AA Gun

Caliber:	23x152-mm
Rate of fire:	1,600 to 1,800 rds/min
Tactical AA range:	2,500 m
Fire control:	Optical mechanical computing sight
Azimuth limits:	Unlimited
Elevation limits:	-10 to 90o
Weight:	950 kg





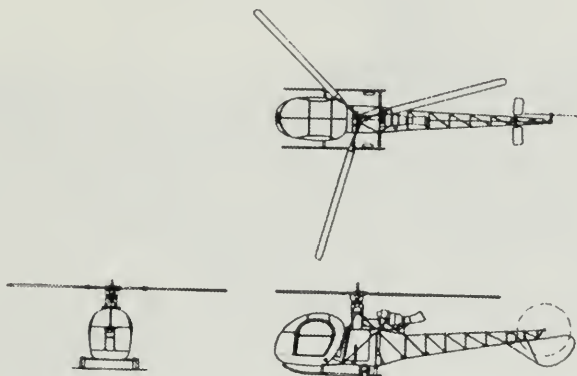
M42 Twin 40-mm SPAAG

Caliber:	40x311-mm
Rate of fire:	240 rds/min
Tactical AA range:	1,500 m
Fire control:	Optical mechanical computing sight
Azimuth limits:	Unlimited
Elevation limits:	-3 to 85o
Weight:	22,400 kg



SECTION 17

FWF AND SFOR HELICOPTERS



SA-318 ALOUETTE II

Mission: VIP Transport/Observation

Fuselage Dimensions

Length: 9.7 m

Width: 2.3 m

Height: 2.7 m

Main rotor

Blades: 3

Diameter: 10.2 m

Tail rotor

Type: Standard/Right side

Blades: 2

Performance

Max Speed: 110 kn

Range: 388 nm

Deployed with: YAADF

Comments: Fielded in 1964.

Landing Gear: Skids

Personnel/Payload

Crew: 1

Troop Capacity: 3

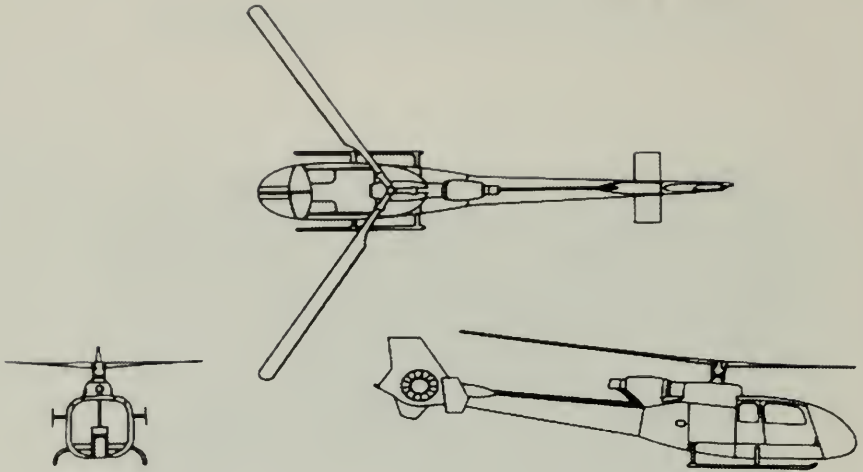
Litter Capacity: 2

Max Payload (internal): 500 kg

Max Slingload: 600 kg

Armament: None





SA-341/342 GAZELLE

Manufacturer: FR

Main rotor

Diameter: 10.5 m

No. of blades: 3

Tail rotor

Diameter: 0.7 m

No. of blades: fenestron

Fuselage

Length: 9.5 m

Width: 2.0 m

Height: 3.2 m

Engines: single turboshaft

Payload: 700 kg

Max. troops: 4

Cruising speed: 128 kn

Range: 355 nm

Hover ceiling: 2,875 m (OGE)

Armament: Possible guns, rockets, and missiles (AT, AA, AS).

Remarks: Primary missions include CAS and reconnaissance. Variants include SA-342L, M and K.





Mi-8 HIP C

Manufacturer: Mil

Main rotor

Diameter: 21.3 m

No. of blades: 5

Tail rotor

Diameter: 3.8 m

No. of blades: 3

Fuselage

Length: 18.2 m

Width: 2.5 m

Height: 4.4 m

Engines: twin turboshaft

Payload: 3,000 kg

Max. troops: 14

Cruising speed: 110 kn

Range: 115 nm (Radius)

Hover ceiling: 2,800 m (IGE)

Armament: Possible AT-3/AT-2 ATGM, rockets, gun pod, bombs.

Remarks: Potential heavily armed assault helicopter.





Mi-17 HIP H

Manufacturer: Mil

Main rotor

Diameter: 21.3 m

No. of blades: 5

Tail rotor

Diameter: 3.8 m

No. of blades: 3

Fuselage

Length: 18.3 m

Width: 2.5 m

Height: 4.4 m

Engines: twin turboshaft

Payload: 4,000 kg

Max. troops: 24

Cruising speed: 110 kn

Range: 110 nm (radius)

Hover ceiling: 2,300 m (IGE)

Armament: Rocket, gun pods

Remarks: Multi-mission assault helicopter.





Mi-24 HIND D

Manufacturer: Mil

Main rotor

Diameter: 17.3 m

No. of blades: 5

Tail rotor

Diameter: 3.9 m

No. of blades: 3

Fuselage

Length: 17.7 m

Width: 1.7 m

Height: 4.5 m

Engines: twin turboshaft

Payload: 1,500 kg

Max. troops: 8

Cruising speed: 145 nm

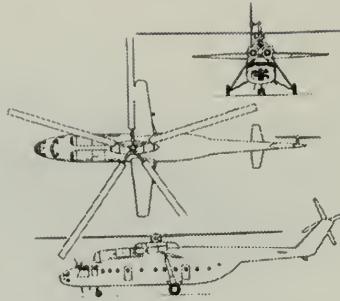
Range: 150 nm (radius)

Hover ceiling: 2,850 m (IGE)

Armament: Guns, rockets, AT-2C (ATGM), bombs.

Remarks: CAS assault attack helicopter.





Mi-6 HOOK

Mission: Transport/Utility

Fuselage Dimensions

Length: 33.2 m

Width: 3.2 m

Height: 9.2 m

Main rotor

Blades: 5

Diameter: 35.0 m

Tail rotor

Type: Standard/Right side

Blades: 4

Armament: 12.7-mm machine gun (range 1,200 m)

Performance

Max Speed: 160 kn

Range: 320 nm

Deployed With: United Nations Forces

Users: RS

Comments: Fielded in 1980.

Landing Gear: Tricycle

Personnel/Payload

Crew: 5

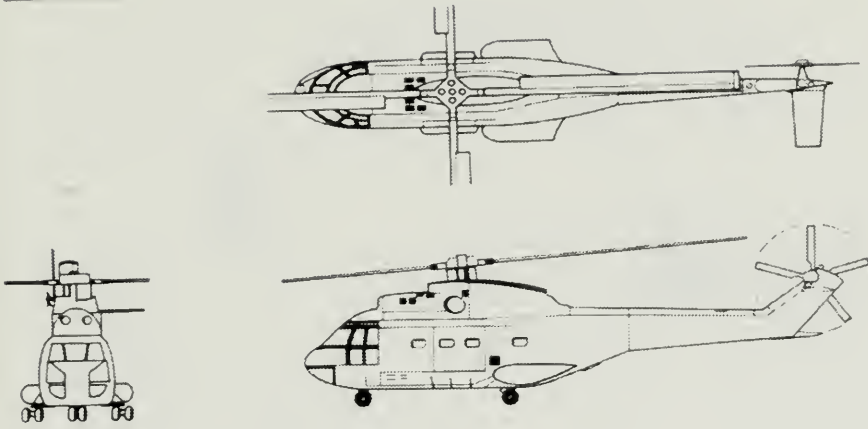
Troop Capacity: 65

Litter Capacity: 41

Max Payload (internal): 12,000 kg

Max Slingload: 8,000 kg





SA-330 PUMA

Manufacturer: FR

Main rotor

Diameter: 15 m

No. of blades: 4

Tail rotor

Diameter: 3.0 m

No. of blades: 5

Fuselage

Length: 14.8 m

Width: 3.6 m

Height: 4.5 m

Engines: twin turboshaft

Payload: 3,650 kg

Max. troops: 20

Cruising speed: 138 kn

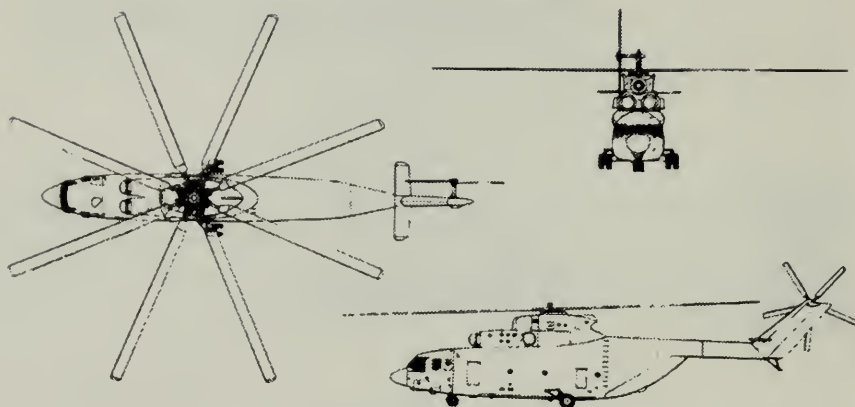
Range: 282 nm

Hover ceiling: 1,350 m (OGE)

Armament: possible guns/rockets

Remarks: transport, assault, or SAR missions. Upgraded variant produced as AS-332 SUPER PUMA.

SFOR



Mi-26 HALO

Manufacturer: Mil

Main rotor

Diameter: 32 m

No. of blades: 8

Tail rotor

Diameter: 7.6 m

No. of blades: 5

Fuselage

Length: 33.5 m

Width: 3.7 m

Height: 8.1 m

Engines: twin turboshaft

Payload: 20,000 kg

Max. troops: 82

Cruising speed: 140 kn

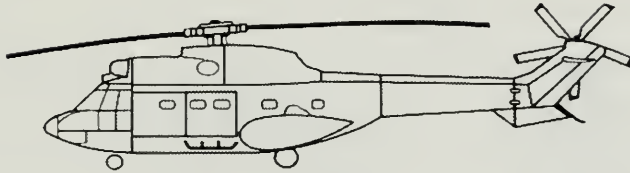
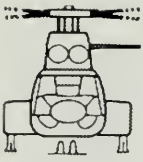
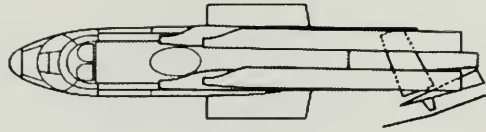
Range: 265 nm

Hover ceiling: 1,850 (IGE)

Armament: N/A

Remarks: Heavy transport





AS-332 SUPER PUMA

Manufacturer: FR

Main rotor

Diameter: 15.6 m

No. of blades: 4

Tail rotor

Diameter: 3.0 m

No. of blades: 4

Fuselage

Length: 14.8 m

Width: 3.5 m

Height: 3.2 m

Engines: twin turboshaft

Payload: 4,500 kg

Max. troops: 20

Cruising speed: 150 kn

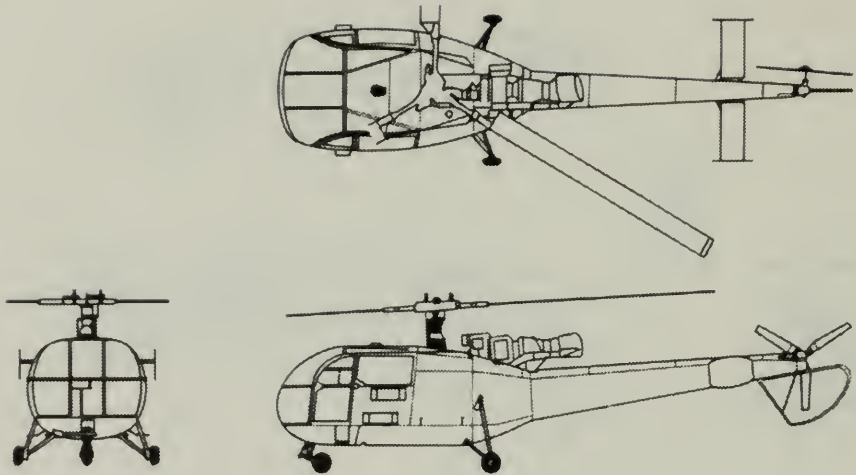
Range: 590 nm

Hover ceiling: 2,750 m (OGE)

Armament: possible torpedoes, guns, rockets, ASM

Remarks: Upgraded variant of SA-330. Missions include commercial and army tactical transport. Also used as an antisurface and ASW platform. Military variant designated AS-532 COUGAR.

SFOR



SA-319B ALOUETTE III

Manufacturer: FR

Main rotor

Diameter: 11.0 m

No. of blades: 3

Tail rotor

Diameter: 1.9 m

No. of blades: 3

Fuselage

Length: 10.2 m

Width: 2.4 m

Height: 1.8 m

Engines: single turboshaft

Payload: 1,000 kg

Max. troops: 6

Cruising speed: 100 kn

Range: 142 nm

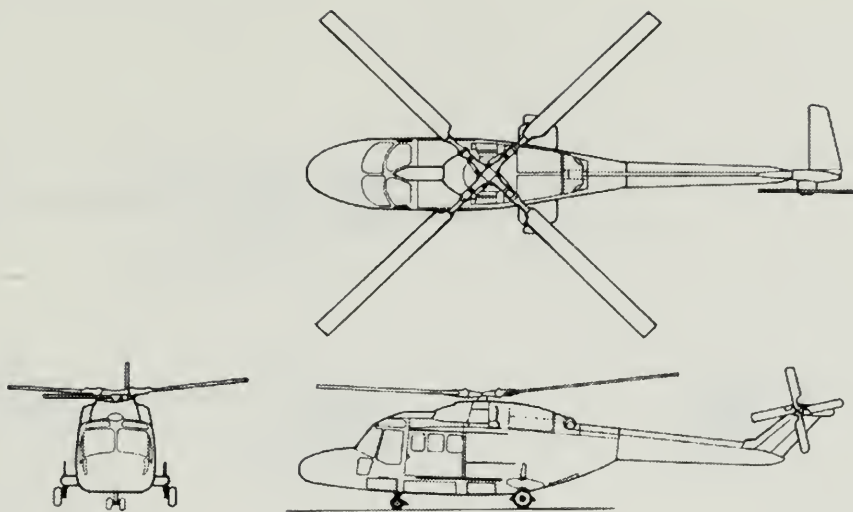
Hover ceiling: 4,250 m (OGE)

Armament: Possible torpedoes, guns, rockets, and ATGM

Remarks: Based on the SA-316.

Alouette variants fitted for transport, MEDEVAC, CAS, ASW, and SAR.





LYNX MK.3

Manufacturer: UK

Main rotor

Diameter: 12.8 m

No. of blades: 4

Tail rotor

Diameter: 2.2 m

No. of blades: 4

Fuselage

Length: 13.0 m

Width: 2.9 m

Height: 4.0 m

Engines: twin turboshaft

Payload: 1,360 kg

Max. troops: 11

Cruising speed: 120 kn

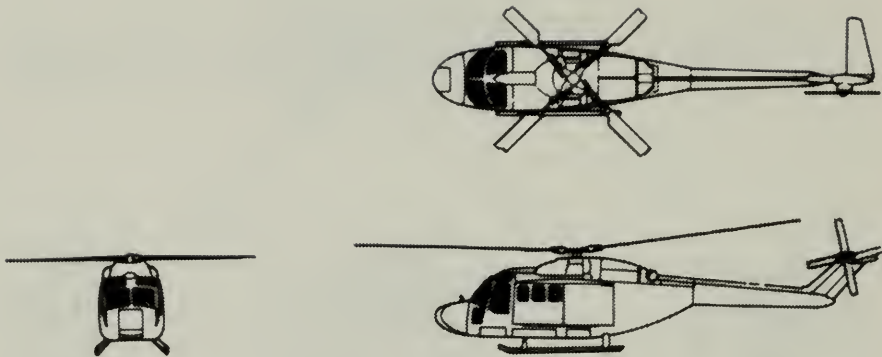
Range: N/A

Hover ceiling: 3,400 m (OGE)

Armament: Possible depth charges, torpedoes, and ASM

Remarks: Most prevalently fitted variant of the Royal Navy's Lynx family. Primary missions of antisurface and ASW. In late 1995, the Lynx Mk. 8 began replacing the existing fleet of Mk. 3 airframes. Variants used by NL, FR, NO, GE, PO and DA for maritime missions.

SFOR



LYNX MK.7

Manufacturer: UK

Main rotor

Diameter: 12.8 m

No. of blades: 4

Tail rotor

Diameter: 2.36 m

No. of blades: 4

Fuselage

Length: 13.2 m

Width: 3.0 m

Height: 3.0 m

Engines: twin turboshaft

Payload: 1,360 kg

Max. troops: 10

Cruising speed: 138 kn

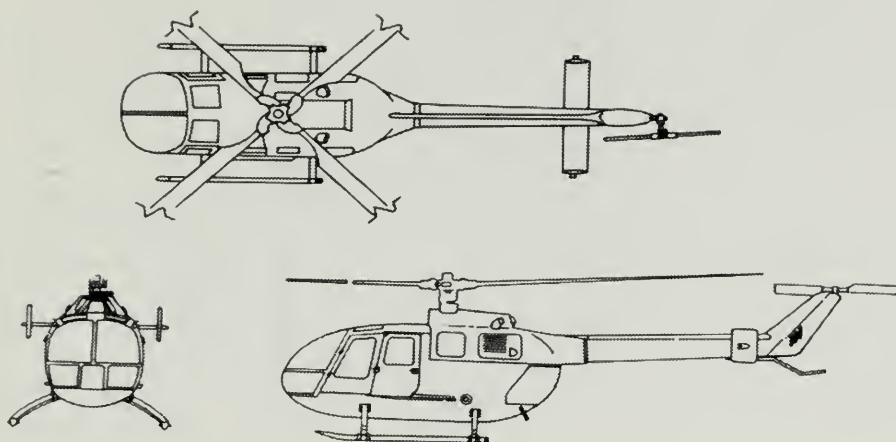
Range: 320 nm

Hover ceiling: 2,875 m (OGE)

Armament: Possible guns, rockets, and ASM.

Remarks: Designated AH-7 by the British Army, this multipurpose aircraft can perform antitank, CAS, and transport missions.

SFOR



BO-105

Manufacturer: GM

Main rotor

Diameter: 9.84 m

No. of blades: 4

Tail rotor

Diameter: 1.9 m

No. of blades: 2

Fuselage

Length: 8.56 m

Width: 1.58 m

Height: 3.0 m

Engines: twin turboshaft

Payload: 700 kg

Max. troops: 5

Cruising speed: N/A

Range: N/A

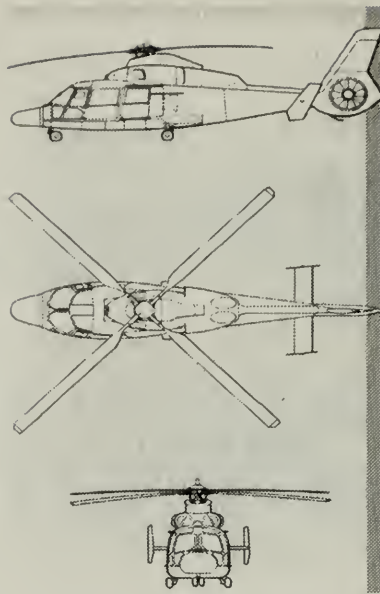
Hover ceiling: 3,200 m (OGE)

Armament: guns, rockets and missiles

Remarks: Originally a civil design with several military variants.

Variants used by SP, NL, and SW.

SFOR



AS-565MA PANTHER

Manufacturer: FR

Main rotor

Diameter: 11.93 m

No. of blades: 4

Tail rotor

Diameter: 1.1 m

No. of blades: fenestron

Fuselage

Length: 12.07 m

Width: 2.03 m

Height: 3.09 m

Engines: twin turboshaft

Payload: 1,800 kg

Max. troops: 10

Cruising speed: N/A

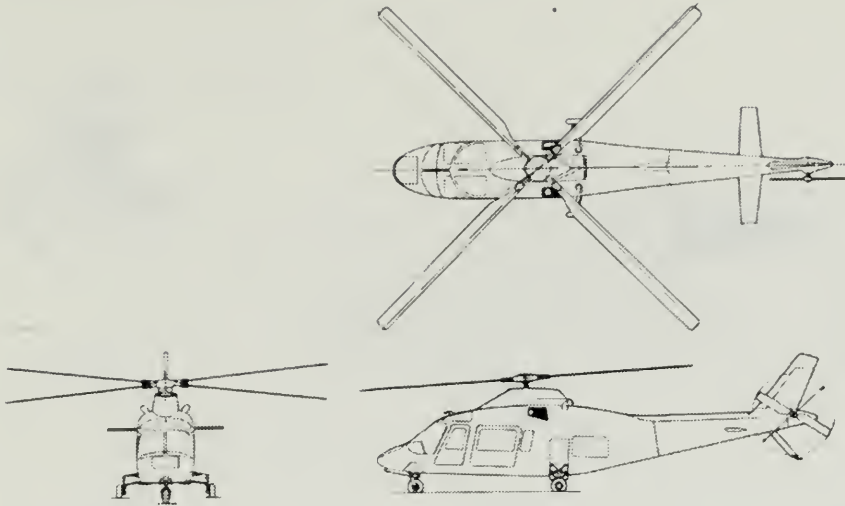
Range: N/A

Hover ceiling: 2,850 m (OGE)

Armament: guns, rockets and missiles

Remarks: Primary roles of antitank, transport, and CAS.

Variants AS-565UA/AA/MA/SA for transport, MEDEVAC, naval SAR, antiship, and ASW.



A-109 HIRUNDO

Manufacturer: IT

Main rotor

Diameter: 11.0 m

No. of blades: 4

Tail rotor

Diameter: 2.0 m

No. of blades: 2

Fuselage

Length: 10.7 m

Width: 2.4 m

Height: 3.3 m

Engines: twin turboshaft

Payload: 1,000 kg

Max. troops: 7

Cruising speed: 125 kn

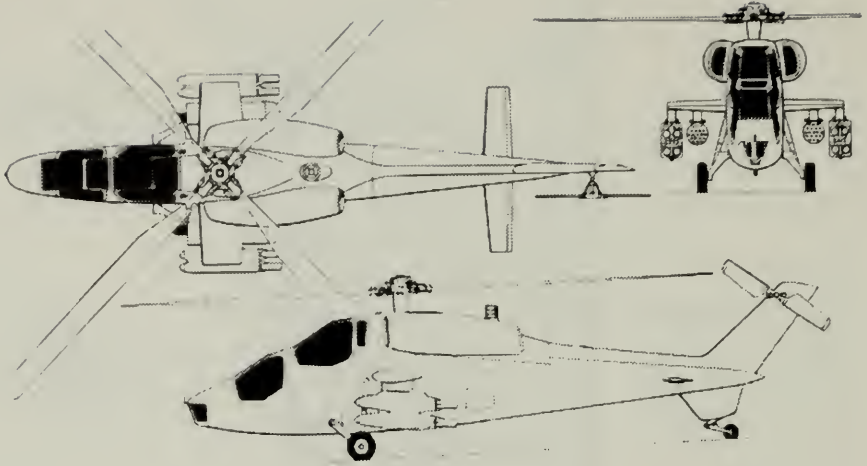
Range: N/A

Hover ceiling: 2,070 m (OGE)

Armament: guns, rockets and missiles

Remarks: General purpose helicopter with variants A109 Mk.2, A109C, A109K, A109KM, and A109 "MAX" for EMS.





A-129 MONGOOSE

Manufacturer: IT

Main rotor

Diameter: 11.9 m

No. of blades: 4

Tail rotor

Diameter: 2.2 m

No. of blades: 2

Fuselage

Length: 12.3 m

Width: 3.6 m

Height: 3.35 m

Engines: twin turboshaft

Payload: 1,200 kg

Max. troops: N/A

Cruising speed: 80 kn

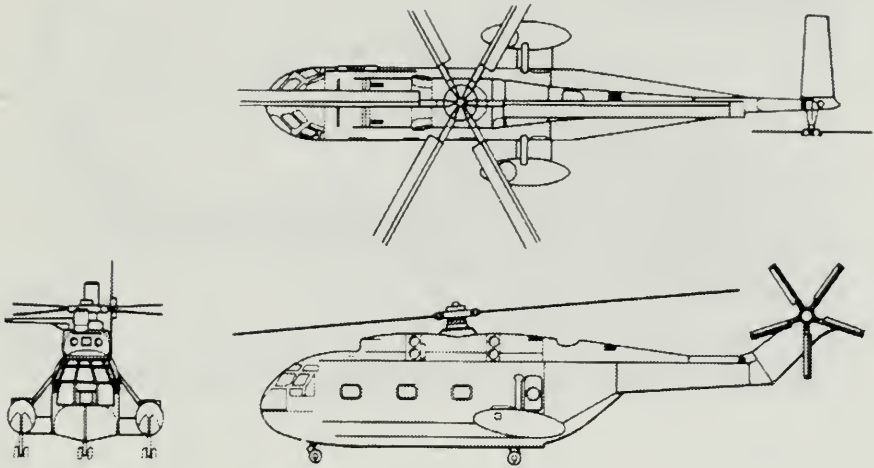
Range: N/A

Hover ceiling: 3,000 m (OGE)

Armament: guns, rockets and missiles

Remarks: Primarily designed for attack and reconnaissance. Tandem crew seating with a manual folding main rotor. Fielded in 1991.

SFOR



SA-321J SUPER FRELON

Manufacturer: FR

Main rotor

Diameter: 18.9 m

No. of blades: 6

Tail rotor

Diameter: 4.0 m

No. of blades: 5

Fuselage

Length: 20.1 m

Width: 2.2 m

Height: 4.7 m

Engines: triple turboshaft

Payload: 5,000 kg

Max. troops: 27

Cruising speed: N/A

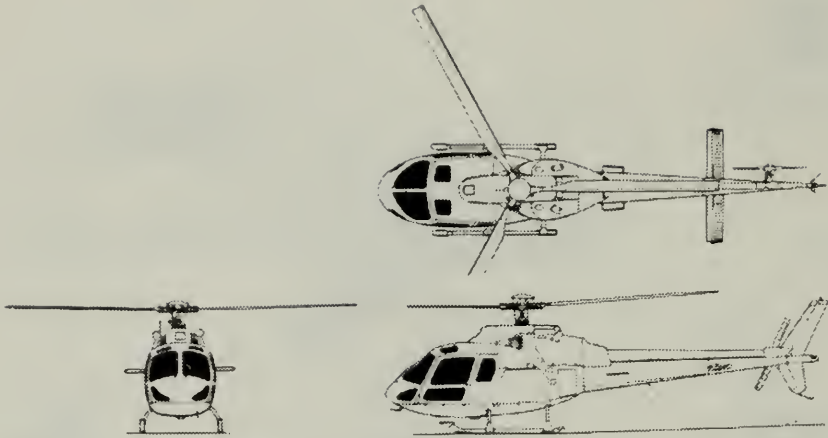
Range: N/A

Hover ceiling: N/A

Armament: torpedoes, depth charges, mines and ASM

Remarks: Originally designed for troop and cargo transport. Naval missions include ASW and antisurface warfare.

SFOR



AS-355/555 ECUREUIL II/FENNEC

Manufacturer: FR

Main rotor

Diameter: 10.6 m
No. of blades: 3

Tail rotor

Diameter: 1.86 m
No. of blades: 2

Fuselage

Length: 10.9 m
Width: 1.8 m
Height: 3.1 m

Engines: twin turboshaft

Payload: 1,100 kg
Max. troops: 5

Cruising speed: 110 kn

Range: 365 nm
Hover ceiling: 2,300 m (OGE)

Armament: guns, rockets and missiles

Remarks: Upgraded variant of the civil/military AS-350/550. Multi-purpose helicopter for MEDEVAC, CAS, liaison, ASW, and reconnaissance.





Bell 412/AB 412

System names: CH-146 (CA), Griffon (IT)

Manufacturer: Bell Textron Canada Ltd. (CA), IPTN (ID), Agusta (IT)

Main rotor

Diameter: 14 m

Payload: 2,451 kg

Tail rotor

Diameter: 2.6 m

No. of blades: 2

Fuselage

Length: 13 m

Width: 2.6 m

Height: 3.9 m

Engines: twin turboshaft

No. of blades: 4

Max. troops: 12

Cruising speed: 124 kn

Range: 375 nm

Hover ceiling: 2,805 m (OGE)

Armament: Possible rockets/guns

Remarks: Transport, assault, or SAR.

Upgraded variant of Bell 212.





UH-1N/Bell 212

System names: CH-135 (CA), Twin Huey (US)

Manufacturer: Agusta (IT), Bell Textron (CA)

Main rotor

Diameter: 14.7 m

No. of blades: 2

Tail rotor

Diameter: 2.6 m

No. of blades: 2

Fuselage

Length: 12.9 m

Width: 2.64 m

Height: 3 m

Engines: twin turboshaft

Payload: 1,814 kg (UH-1N)

Max. troops: 12

Cruising speed: 100 kn

Range: 227 nm

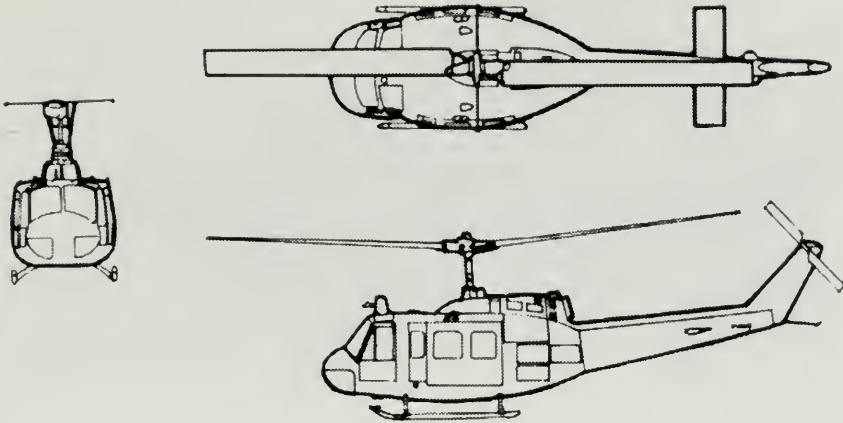
Hover ceiling: 3,350 m (IGE)

Armament: Possible guns, rockets

Remarks: Multi-role transport,

SAR, utility, and ASW.





UH-1H/Bell 205

System names: CH-108 (CA), HU.10B (SP), Iroquois (US)

Manufacturer: Bell Textron (CA), Agusta (IT), Fuji (JA)

Main rotor

Diameter: 14.6 m

No. of blades: 2

Tail rotor

Diameter: 2.6 m

No. of blades: 2

Fuselage

Length: 12.8 m

Width: 2.6 m

Height: 3.6 m

Engines: single turboshaft

Payload: 1,980 kg

Max. troops: 11-14

Cruising speed: 110 kn

Range: 252 nm

Hover ceiling: 335 m (OGE)

Armament: Possible guns, rockets

Remarks: Multi-role transport, SAR, and utility.

SFOR



AH-1E/F/P/S/Bell 209

System names: Cobra, Huey Cobra, Sea Cobra, Super Cobra

Manufacturer: Bell Textron (US), Fuji (JA)

Main rotor

Diameter: 13.4 m

No. of blades: 2

Tail rotor

Diameter: 2.6 m

No. of blades: 2

Fuselage

Length: 12.7 m

Width: 2.9 m

Height: 3.6 m

Engines: single turboshaft

Payload: 3,531 kg

Max. troops: 0

Cruising speed: 123 kn

Range: 274 nm

Hover ceiling: 3,720 (IGE)

Armament: TOW missile, guns,
and rockets

Remarks: Attack helicopter.





AH-64A APACHE

Manufacturer: McDonnell Douglas (US)

Main rotor	Engines: twin turboshaft
Diameter: 14.6 m	Payload: 1,928 kg
No. of blades: 4	Max. troops: N/A
Tail rotor	Cruising speed: 160 kn
Diameter: 2.8 m	Range: 260 nm
No. of blades: 4	Hover ceiling: 3,505 m (OGE)
Fuselage	Armament: Cannon, rockets, Hellfire ATGM
Length: 17.8 m	Remarks: All weather attack helicopter.
(Both rotors)	
Width: 5.2 m (wing span)	
Height: 3.8 m	

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AH-6/OH-6/MH-6/MD 500/530

System names: Nightstalker, Cayuse (OH-6), Defender (500)

Manufacturer: McDonnell Douglas (US), Bredabardi (IT)

Main rotor

Diameter: 8.3 m

No. of blades: 5

Tail rotor

Diameter: 1.4 m

No. of blades: 2

Fuselage

Length: 7.6 m

Width: 1.96 m

Height: 2.6 m

Engines: single turboshaft

Payload: 800 kg

Max. troops: N/A

Cruising speed: 121 kn

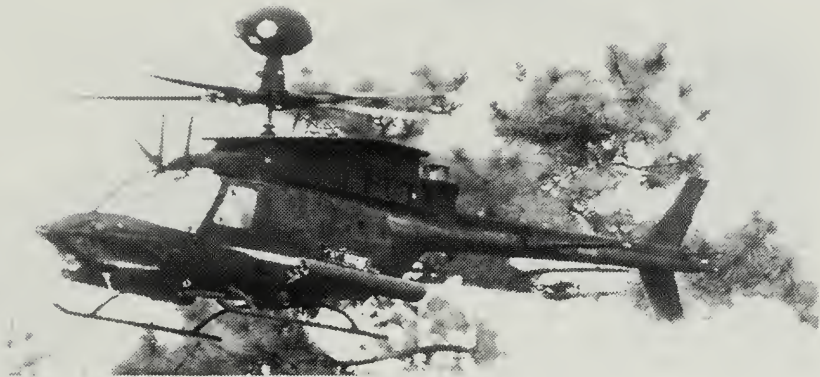
Range: 203 nm

Hover ceiling: 3,660 m (IGE)

Armament: TOW ATGM, rockets, guns

Remarks: Special mission, observer, and reconnaissance.





OH-58D/Bell 406

System names: Kiowa Warrior, Combat Scout (406 CS), Aeroscout (US)

Manufacturer: Bell Textron

Main rotor

Diameter: 10.7 m

No. of blades: 4

Tail rotor

Diameter: 1.65 m

No. of blades: 2

Fuselage

Length: 10.3 m

Width: 1.97 m

Height: 2.6 m

Engines: single turboshaft

Payload: 760 kg

Max. troops: 0

Cruising speed: 120 kn

Range: 300 nm

Hover ceiling: 3,415 m (OGE)

Armament: Stinger, Hellfire, rockets,
gun pods

Remarks: Armed scout/reconnaissance.

SFOR



CH-47C/D

System names: Chinook (US, IT), CH-147 (CA), HT.17 (SP), HC.Mk2 (UK)

Manufacturer: Boeing (US), Agusta (IT)

Main rotor

Diameter: 18.3 m (ea)

No. of blades: 3 (ea)

Tail rotor

Diameter: NA

No. of blades: NA

Fuselage

Length: 15.5 m

Width: 3.8 m

Height: 5.7 m

Engines: twin turboshaft

Payload: 12,179 kg

Max. troops: 33-55

Cruising speed: 134 kn

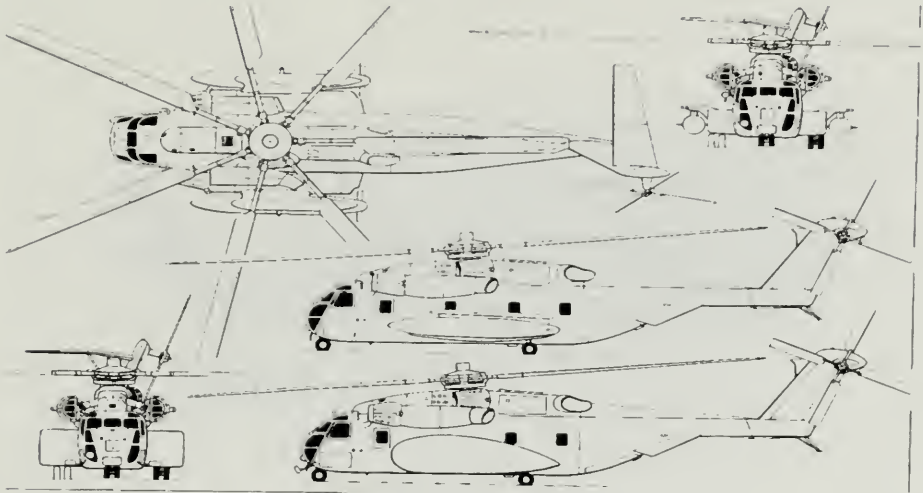
Range: 100 nm (radius)

Hover ceiling: 5,395 m (OGE)

Armament: N/A

Remarks: Medium transport.





CH-53

System names: Super Stallion, Sea Stallion, Pave Low III

Manufacturer: Sikorsky

Main rotor

Diameter: 24 m

No. of blades: 7

Tail rotor

Diameter: 6.1 m

No. of blades: 4

Fuselage

Length: 22.35 m

Width: 8.66 m

Height: 5.3 m

Engines: three turboshaft

Payload: 16,330 kg

Max. troops: 55

Cruising speed: 150 kn

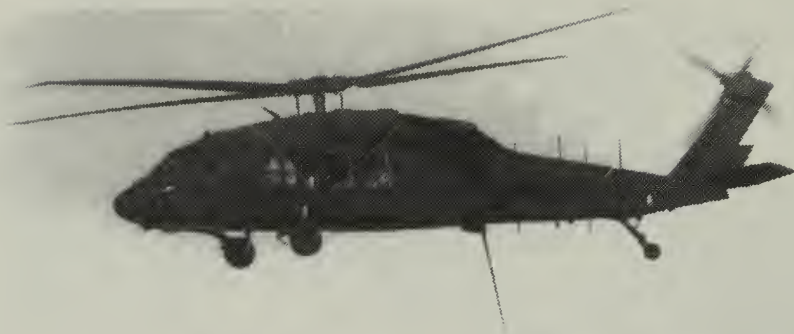
Range: 1,120 nm (ferry)

Hover ceiling: 3,520 m (IGE)

Armament: N/A

Remarks: Heavy duty transport, naval mine sweeping, special operations (PAVE series).

SFOR



UH-60/SH-60/S-70

System names: Black Hawk, Sea Hawk, Pave Hawk

Manufacturer: Sikorsky

Main rotor

Diameter: 16.4 m

No. of blades: 4

Tail rotor

Diameter: 3.35 m

No. of blades: 4

Fuselage

Length: 17.4 m

Width: 2.4 m

Height: 3.76 m

Engines: twin turboshaft

Payload: 4,800 kg

Max. troops: 11 - 14

Cruising speed: 145 kn

Range: 324 nm

Hover ceiling: 3,170 m (OGE)

Armament: Hellfire (ATGM), gun pods, ASW weapons

Remarks: Tactical transport, naval mine sweeping, special missions (PAVE series).



Mi-2 HOPLITE

Manufacturer: Swidnik (PL)

Main rotor

Diameter: 14.6 m
No. of blades: 3

Engines: twin turboshaft

Payload: 700 kg

Max. troops: 7

Tail rotor

Diameter: 2.7 m
No. of blades: 2

Cruising speed: 105 kn

Range: 95 nm (radius)

Hover ceiling: 1,950 m (IGE)

Fuselage

Length: 11.9 m
Width: 3.25 m
Height: 3.75 m

Armament: Gun pods, rockets, AT-3 (ATGM), bombs

Remarks: Potentially armed multi-mission utility helicopter.

SFOR

SECTION 18

FWF AND SFOR FIXED-WING AIRCRAFT AND MARKINGS



AN-12 CUB

MISSION: Assault/Transport

WINGS: High-mounted, tapered-straight, elliptical tips, negative dihedral

ENGINE: Four turboprops; nacelles extend beyond wing

FUSELAGE: Cigar-shaped, rounded nose, small radome is located under the nose

TAIL: Vertical stabilizer is tapered with large angular fairing

ARMAMENT

PRIMARY: 23-mm/NR-23 guns

PERFORMANCE

MAX RANGE: 1,942 nm (3,600 km)

MAX SPEED: 361 kn

SERVICE CEILING: 33,500 ft (10,200 m)





G.2 GALEB/J-21 JASTREB

MISSION: Ground attack/Trainer

WINGS: Low-mounted; tapered with wing tip tanks

ENGINE: Single turbojet mounted in fuselage with rounded air intakes

FUSELAGE: Tube shaped; rounded nose

TAIL: Vertical stabilizer is tapered straight with angular fairing; horizontal stabilizer is tapered and high mounted

ARMAMENT

PRIMARY: 57/127 mm rockets; bombs

SECONDARY: Machine guns

PERFORMANCE

MAX RANGE: 29,520 ft (9,000 m)

MAX SPEED: 408 kn at sea level

SERVICE CEILING: 39,375 ft (12,000 m)





G-4 SUPER GALEB

MISSION: Ground attack

WINGS: Swept, low-mounted, elliptical tips, leading edge extensions, and stall fences at outer 2/3 of wing; may have wing tip missile pylons

ENGINE: Single turbojet located in fuselage; air intakes are side-mounted forward of wing's leading edge

FUSELAGE: Lobe-shaped with rounded nose and dorsal spine extending to vertical stabilizer; two-seat cockpit

TAIL: Vertical stabilizer swept; horizontal stabilizer swept, high-mounted on fuselage, with negative dihedral

ARMAMENT

PRIMARY: 23-mm gun, general purpose bombs, fragmentation bombs, rockets

SECONDARY: Air-to-air missiles

PERFORMANCE

MAX RANGE: 1,565 nm

MAX SPEED: Mach 0.9

SERVICE CEILING: 42,160 ft (12,850 m)





PZL-104 WILGA

MISSION: Light general purpose

WINGS: Cantilever high-wing monoplane

ENGINE: Single engine mounted in nose

FUSELAGE: Two section: forward section incorporates main wing spar carry-through structure; rear section is in the form of a tailcone

TAIL: Vertical stabilizer swept; horizontal stabilizer swept and high-mounted

PERFORMANCE

RANGE: 626 nm (1,160 km)

MAX LEVEL SPEED: 138 kn at 1,640 ft (500 m)

SERVICE CEILING: 19,680 ft (6,000 m)





SOKO P-2 KRAGUJ

MISSION: Light-weight close-support

WINGS: Cantilever low-wing monoplane

ENGINE: Single-engine three-bladed prop engine mounted in nose

FUSELAGE: Cigar-shaped

TAIL: Single vertical stabilizer; horizontal stabilizer tapered-tapered mid-mounted on fuselage

ARMAMENT

PRIMARY: Two 7.7-mm guns; GP bombs

SECONDARY: Napalm tank and various rockets

PERFORMANCE

MAX RANGE: 500 mi (800 km)

MAX SPEED: 183 mph (295 km/h) at sea level





UTVA 60/66

MISSION: General utility

WINGS: Straight-straight, high-mounted

ENGINE: Piston engine mounted in nose

FUSELAGE: Lobe-shaped with blunt nose

TAIL: Vertical stabilizer tapered-straight; horizontal stabilizer is tapered-tapered, low-mounted on vertical stabilizer

PERFORMANCE

RANGE: 593 nm (1,100 km)

MAX LEVEL SPEED: 124 kn (320 km/h)

SERVICE CEILING: 22,000 ft (6,700 m)





UTVA-75

MISSION: Light utility

WINGS: Straight-tapered with straight inboard leading and trailing edges; low-mounted with elliptical tips

ENGINE: Single piston engine mounted in nose

FUSELAGE: Lobe-shaped with blunt nose; fixed landing gear

TAIL: Vertical stabilizer is mid-mounted with curved fairing; horizontal stabilizer is low-mounted on vertical stabilizer; tapered-tapered

ARMAMENT

PRIMARY: General purpose bombs, two-round rocket launcher, machine-gun pod

PERFORMANCE

MAX RANGE: 1,080 nm (2,000 km) with drop tanks

MAX LEVEL SPEED: 116 kn (215 km/h)

SERVICE CEILING: 13,125 ft (4,000 m)





MIG-21 FISHBED

MISSION: Air superiority fighter

WINGS: Delta, mid-mounted with clipped tips

ENGINE: Single turbojet mounted in fuselage with nose intake

FUSELAGE: Tube-shaped with blunt nose and shock cone, dorsal spine extends aft of cockpit to vertical stabilizer; ventral fin located under rear of fuselage (single-seat)

TAIL: Vertical stabilizer swept; horizontal stabilizer swept and mid-mounted on fuselage

ARMAMENT

PRIMARY: Atoll/Advanced Atoll air-air missiles, GP bombs, or air-surface rockets

SECONDARY: Twin-barrel 23 mm GSh-23 gun

PERFORMANCE

COMBAT RADIUS: 400 nm (740 km)

MAX SPEED: Mach 1.06 at sea level

SERVICE CEILING: 59,000 ft





MIG-23/27 FLOGGER

MISSION: Multi-purpose fighter

WINGS: Variable geometry, high-mounted, elliptical tips, sawtooth leading edge when swept

ENGINE: Single turbojet in fuselage, large rectangular air intakes aft of cockpit.

FUSELAGE: Cigar-shaped, pointed nose; dorsal spine from canopy to large angular fairing

TAIL: Vertical stabilizer, swept with large angular fairing; horizontal stabilizer is swept, high-mounted on fuselage

ARMAMENT

PRIMARY: 23-mm GSh-23 twin-barrel gun

SECONDARY: Rocket packs; AA-7 Apex, AA-8 Aphid air-air missiles

PERFORMANCE

COMBAT RADIUS: 650 nm (1,200 km)

MAX SPEED: Mach 2.3 with external stores

SERVICE CEILING: 61,000 ft (18,600 m)





MIG-29 FULCRUM

MISSION: Counter-air fighter, with attack capability

WINGS: Low mounted, swept, elliptical tips; chine fairings extend from forward of canopy to wing leading edge

ENGINE: Two turbofans, wedge intakes mounted under wing

FUSELAGE: Cigar-shaped with pointed nose

TAIL: Twin tapered-tapered vertical stabilizer; horizontal stabilizer, swept, high mounted on fuselage

ARMAMENT

PRIMARY: 30-mm cannon; AA-10, 11, 8, and 9 air-air missiles

SECONDARY: GP bombs and 57, 80, 240-mm rockets in attack role

PERFORMANCE

RANGE: 1,130 nm (2,100 km)

MAX SPEED: Mach 1.06 at sea level

SERVICE CEILING: 56,000 ft (17,000 m)





ORAO 2 J-22M

MISSION: Close support and ground attack/Tactical reconnaissance

WINGS: High-mounted, swept wings

ENGINE: Turbojets mounted side by side in rear fuselage, air intake on each side of fuselage below cockpit canopy

FUSELAGE: Cigar-shaped with pointed nose and rear ventral fins; dorsal spine extends from canopy beyond engine exhaust

TAIL: Low-set all-moving tailplane; small dorsal fin; auxiliary ventral fin on each side

ARMAMENT

PRIMARY: Various GP bombs, rockets, sea mines, Maverick or Yugoslav

PERFORMANCE

COMBAT RADIUS: 286 nm (530 km)

MAX SPEED: 626 kn (1,160 km/h) at sea level

SERVICE CEILING: 44,300 ft (13,500 m)





AN-2 COLT

MISSION: General purpose transport

WINGS: Biplane; braced, straight-straight; elliptical tips

ENGINE: One piston engine mounted in nose

FUSELAGE: Lobe-shaped, blunt nose; fixed conventional landing gear

TAIL: Vertical stabilizer tapered-tapered; horizontal stabilizer, straight-straight, low-mounted on vertical stabilizer

PERFORMANCE

MAX RANGE: 488 nm (905 km)

MAX SPEED: 136 kn (253 km/h) at 5,750 ft

SERVICE CEILING: 14,270 ft (4,350 m)





DORNIER DO-27

MISSION: General-purpose/Transport

WINGS: Straight-straight, high mounted

ENGINE: Single piston engine, mounted in nose

FUSELAGE: Lobe-shaped with blunt nose

TAIL: Vertical stabilizer tapered-tapered; horizontal stabilizer straight-straight

PERFORMANCE

MAX RANGE: 685 mi (1,100 km)

MAX SPEED: 141 mph (227 km/h) at 3,280 ft

SERVICE CEILING: 10,825 ft (3,300 m)





LEARJET

MISSION: Light executive transport

WINGS: Cantilever, low-mounted monoplane, swept

ENGINE: Two turbojets, pod-mounted on sides of fuselage, aft of wings

FUSELAGE: Cigar-shaped

TAIL: Vertical stabilizer swept; horizontal stabilizer swept

PERFORMANCE

MAX RANGE: 1,430 nm (2,650 km)

MAX SPEED: 475 kn (880 km/h) at 25,000 ft

SERVICE CEILING: 51,000 ft (15,545 m)





AN-26 CURL

MISSION: Short-haul transport

WINGS: High-mounted, tapered-tapered with elliptical tips

ENGINE: Two turboprops mounted under wing, nacelles extending beyond leading and trailing edges

FUSELAGE: Cigar-shaped, rounded nose; rear of fuselage is upswept, two ventral fins on rear fuselage

TAIL: Vertical stabilizer tapered-straight, angular fairing; horizontal stabilizer swept, high-mounted on fuselage

PERFORMANCE

MAX RANGE: 1,348 nm (2,500 km)

MAX SPEED: 237 kn (440 km/h) at 19,675 ft

SERVICE CEILING: 24,600 ft (7,500 m)





BOEING 707

MISSION: Transport/Tanker

WINGS: Swept, low-mounted, elliptical tips, straight inboard trailing edges

ENGINE: Four turbojets mounted on pylons under wing, nacelles extend well forward of leading edge

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Swept vertical stabilizer with curved fairing; horizontal stabilizer swept and mid-mounted on fuselage

PERFORMANCE

MAX RANGE: 4,000 nm (4,853 km)





FALCON 50

MISSION: Light transport

WINGS: Low-mounted; elliptical tips

ENGINE: Three turboprops, two rear-mounted on fuselage, one located in front of vertical stabilizer

FUSELAGE: Cigar-shaped, rounded nose

TAIL: Vertical stabilizer swept; horizontal stabilizer swept, mid-mounted on vertical stabilizer

PERFORMANCE

MAX RANGE: 3,000 nm (5,560 km)

MAX SPEED: 470 kn

SERVICE CEILING: 45,300 ft (13,800 m)





Li-2 CAB (DC-3/C-47)

MISSION: Short/Medium range transport

WINGS: Low-mounted, tapered-straight; leading edge is straight from inboard to engines, positive dihedral, rounded wing tips

ENGINE: Two piston engines in wings; nacelles extend midway through and beyond wings leading edge

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer tapered-tapered with short curved fairing; horizontal stabilizer, tapered-straight, mid-mounted on fuselage

PERFORMANCE

MAX RANGE: 1,845 nm (3,420 km)

MAX SPEED: 230 mph (333 km/h) at 8,500 ft

SERVICE CEILING: 23,200 ft (7,070 m)





YAK-40 CODLING

MISSION: Transport

WINGS: Tapered, low-mounted; elliptical tips, positive dihedral

ENGINE: Three turboprops, two rear-mounted on fuselage, one in tailcone

FUSELAGE: Cigar-shaped, conical nose

TAIL: Vertical stabilizer swept; horizontal stabilizer tapered, mounted atop vertical stabilizer forming T-tail

PERFORMANCE

MAX RANGE: 1,080 nm (2,000 km) at 26,250 ft

MAX SPEED: Mach 0.7 at sea level





A-10 THUNDERBOLT

MISSION: Close air support and ground attack

WINGS: Tapered-tapered, low-mounted with elliptical tips

ENGINE: Two turbofans, high-mounted on rear of fuselage

FUSELAGE: Tube-shaped with rounded nose; 30-mm cannon mounted in nose

TAIL: Twin vertical stabilizers, tapered-tapered, mounted on ends of horizontal stabilizer; horizontal stabilizer is straight-straight and low-mounted on fuselage

ARMAMENT

PRIMARY: GAU-8/A Avenger 30 mm gun, AGM 65 A/B Maverick

SECONDARY: Laser-guided, EO-guided, cluster and GP bombs

PERFORMANCE

COMBAT RADIUS: 250 nm (463 km) for close air support

MAX SPEED: 380 kn (704 km/h) at sea level





AMX

MISSION: Close air support, battlefield interdiction, and reconnaissance; secondary capability for offensive counter-air

WINGS: Swept, high-mounted, slight negative dihedral; two pylons under each wing

ENGINE: One jet engine in fuselage, intakes are merged with wing roots and extend to rear of canopy

FUSELAGE: Nose is ogive; intakes blend into wing and fuselage

TAIL: Vertical stabilizer swept with edges slightly curved; horizontal stabilizer swept, mid-mounted on fuselage

ARMAMENT

PRIMARY: M61A1 20-mm cannon; laser guided and cluster bombs, air-surface missiles

SECONDARY: AIM 9 or other IR air-air missiles

PERFORMANCE

COMBAT RADIUS: 500 nm (926 km)

MAX LEVEL SPEED: Mach.86

SERVICE CEILING: 42,650 ft (13,000 m)





AV-8B HARRIER

MISSION: Single-seat, V/STOL close support, battlefield interdiction, night attack and reconnaissance

WINGS: High-mounted, swept wing with elliptical tips

ENGINE: Single turbofan engine mounted in fuselage, two rounded air intakes forward of wing

FUSELAGE: Lobe-shaped with pointed nose; tail boom extends from rear of fuselage

TAIL: Vertical stabilizer swept with stepped fairing; horizontal stabilizer high-mounted on fuselage and swept

ARMAMENT

PRIMARY: 25-mm cannon, AGM 65 Maverick, laser-guided, fire or cluster bombs, rocket pods

SECONDARY: AIM 9L or MATRA MAGIC air-air missiles

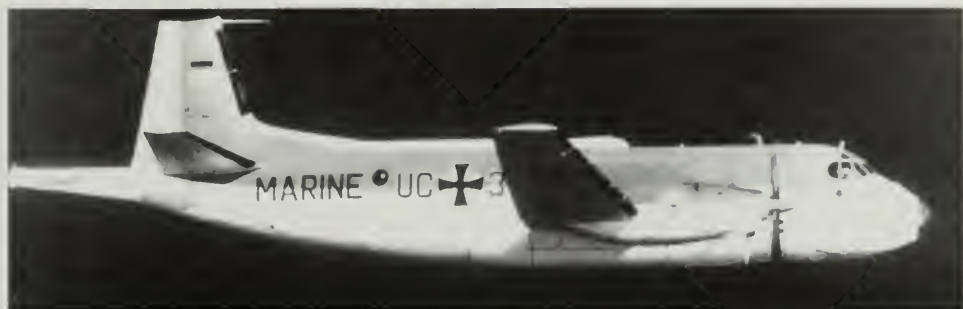
PERFORMANCE

COMBAT RADIUS: 594 nm (1,101 km)

MAX SPEED: 575 kn (1,065 km/h) at sea level

SERVICE CEILING: 51,200 ft (15,600 m)





BREGUET ATLANTIQUE

MISSION: Long-range maritime patrol aircraft

WINGS: Low-mounted, tapered-tapered with elliptical tips

ENGINE: Two turboprops mounted in wing

FUSELAGE: Cigar-shaped, with rounded nose, retractable radome centerlined under fuselage; tail boom extends from rear of fuselage

TAIL: Vertical stabilizer is tapered-tapered with curved fairing; horizontal stabilizer is tapered-tapered, high-mounted on fuselage

ARMAMENT

PRIMARY: AM.39 Exocet and other air-surface missiles, Mk. 46 torpedoes, and an assortment of torpedoes, depth charges, and mines

PERFORMANCE

MAX RANGE: 5,640 mi (9,075 km)

MAX SPEED: 400 mph (645 km/h) at optimum altitude

SERVICE CEILING: 30,000 ft (9,145 m)





ETENDARD IV

MISSION: Single-seat interceptor/Ground attack

WINGS: Swept, cantilever mid-wing monoplane

ENGINE: Single engine jet with two intakes

FUSELAGE: Cigar-shaped, sharp nose with cockpit forward of engine intakes

TAIL: Swept vertical and horizontal stabilizers

ARMAMENT

PRIMARY: Two 30-mm DEFA cannons; Various GP bombs, rockets, air-surface and air-air missiles

PERFORMANCE

COMBAT RADIUS: 1,000 mi (1,600 km) for medium-altitude mission

MAX LEVEL SPEED: Mach 1.02 at 36,000 ft

SERVICE CEILING: 49,200 ft (15,000 m)



F-14 TOMCAT

MISSION: Fighter/Interceptor

WINGS: Variable geometry, high-mounted with elliptical tips

ENGINE: Twin turbofans mounted alongside fuselage, rectangular air intakes side-mounted

FUSELAGE: Tube-shaped with pointed nose

TAIL: Twin vertical stabilizers swept; horizontal stabilizer swept and mid-mounted on fuselage

ARMAMENT

PRIMARY: Full assortment of US air-air-missiles, 20-mm cannon

PERFORMANCE

COMBAT RADIUS: 1,000 nm

MAX SPEED: Mach 2.34

SERVICE CEILING: 53,000 ft





F-15 EAGLE

MISSION: Air superiority fighter

WINGS: Swept, high-mounted with elliptical tips

ENGINE: Two turbofans mounted in fuselage

FUSELAGE: Tube-shaped with pointed nose, cockpit well forward of wing

TAIL: Twin vertical stabilizers are tapered-straight; horizontal stabilizer is swept with sawtooth leading edge and mid-mounted on fuselage

ARMAMENT

PRIMARY: Full assortment of US air-air missiles

SECONDARY: 20-mm cannons

PERFORMANCE

COMBAT RADIUS: 1,200 nm

MAX SPEED: Mach 2.5

SERVICE CEILING: 100,000 ft (30,500 m)





F-16 FIGHTING FALCON

MISSION: Multi-role fighter

WINGS: Tapered-straight, mid-mounted with squared tips; leading edge fairings extend forward to cockpit

ENGINE: Single turbofan engine mounted in fuselage, with oval air intake under the forward part of the fuselage

FUSELAGE: Cigar-shaped with pointed nose, cockpit well forward of wing

TAIL: Vertical stabilizer swept with angular fairing; horizontal stabilizer tapered-straight with negative dihedral, mid-mounted on fuselage; two ventral fins near rear of fuselage

ARMAMENT

PRIMARY: M61A1 20-mm cannon; AIM 9, AIM 120, MATRA MAGIC, and other air-air missiles; various guided and unguided bombs and air-surface missiles

SECONDARY: Anti-ship and anti-radiation missiles

PERFORMANCE

COMBAT RADIUS: 740 nm (1,371 km)

MAX SPEED: > Mach 2.0 at 40,000 ft (12,200 m)

SERVICE CEILING: >50,000 ft (15,240 m)





F/A-18 HORNET

MISSION: Carrier-borne and land-based attack multi-role fighter

WINGS: High-mounted, tapered-straight, with chine fairings on side of fuselage to front of cockpit

ENGINE: Two turbofan engines mounted in rear section, oval air intakes under wing

FUSELAGE: Barrel-shaped with solid, pointed nose; air intakes tapered to the rear

TAIL: Twin vertical stabilizers are swept and mounted well forward on fuselage; horizontal stabilizer is swept and mid-mounted on fuselage.

ARMAMENT

PRIMARY: M61 20-mm cannon; AGM-84 Harpoon., AGM-65F, and a full assortment of laser-guided, cluster, and GP bombs

SECONDARY: AIM-7, AIM-9, AIM-120 air-air missiles;
AGM-88 HARM

PERFORMANCE

COMBAT RADIUS: 290 nm (537 km) for interdiction mission

MAX LEVEL SPEED: > Mach 1.8

SERVICE CEILING: >50,000 ft (15,240 m)

SFOR



JAGUAR

MISSION: Fighter/Ground attack

WINGS: Swept, high-mounted with squared tips and sawtooth leading edge, straight inboard trailing edge

ENGINE: Two turbofans located in fuselage

FUSELAGE: Cigar-shaped with pointed nose; rectangular air intakes just aft of cockpit; Dorsal spine extends from canopy flanking vertical stabilizer; twin ventral fins mounted forward of engine exhaust

TAIL: Vertical stabilizer swept; horizontal stabilizer is swept and mid-mounted on fuselage with a negative dihedral

ARMAMENT

PRIMARY: Two 30-mm guns, anti-radiation missiles, GP bombs, fragmentation bombs, laser-guided bombs, air-surface rockets

SECONDARY: Air-air missiles

PERFORMANCE

COMBAT RADIUS: 760 nm (1,408 km) with external fuel

MAX LEVEL SPEED: Mach 1.6 at 11,000 ft





MIRAGE 2000

MISSION: Multi-role/Interceptor

WINGS: Low-mounted, delta with clipped tips

ENGINE: Single turbofan mounted in fuselage, two rounded air intakes forward of wing

FUSELAGE: Tube-shaped with pointed nose

TAIL: Vertical stabilizer is swept with small curved fairing; no horizontal stabilizer

ARMAMENT

PRIMARY: Matra Super 530D, 530F missiles, Matra 550 Magic or Magic 2 missiles air-air missiles

SECONDARY: Retarded bombs, anti-runway bombs, penetration bombs, 1,000 kg laser-guided bombs, cluster bombs, modular bombs, 30-mm guns

PERFORMANCE

MAX RANGE: 1,800 nm (3,335 km)

MAX LEVEL SPEED: > Mach 2.2

SERVICE CEILING: 59,000 ft (18,000 m)

SFOR



MIRAGE F-1

MISSION: Multi-role air superiority/Ground attack/Reconnaissance aircraft

WINGS: High-mounted, swept with missile pylons on square tips, sawtooth leading edge

ENGINE: Single turbojet located in fuselage

FUSELAGE: Tube-shaped with pointed nose; large rounded air intakes forward of wing root; dorsal spine extends from canopy to mid-fuselage.

TAIL: Vertical stabilizer swept; horizontal stabilizer is swept and mid-mounted on fuselage

ARMAMENT

PRIMARY: Two 30-mm DEFA 553 cannon, AIM-9, MATRA, or other air-air missiles

SECONDARY: AM 39 Exocet anti-ship missile; various laser-guided and GP bombs; rockets; air-surface missiles

PERFORMANCE

COMBAT RADIUS: 378 nm (700 km)

MAX LEVEL SPEED: Mach 2.2 at high altitude

SERVICE CEILING: 65,600 ft (20,000 m)





S-3 VIKING

MISSION: Anti-submarine warfare/Transport

WINGS: High-mounted, tapered-straight with wing tip electronic pods

ENGINE: Two turbofan engines mounted on pylons under wings, nacelles extend beyond wing leading edge

FUSELAGE: Lobe-shaped with rounded nose; Retractable boom located in tail

TAIL: Vertical stabilizer swept with short curved fairing; horizontal stabilizer swept and high-mounted

ARMAMENT

PRIMARY: GP bombs

SECONDARY: Cluster bombs

PERFORMANCE

COMBAT RADIUS: > 2,000 nm

MAX SPEED: 450 kn (84 km/h)

SERVICE CEILING: > 35,000 ft (10,670 m)





TORNADO

MISSION: Fighter/Strike/Reconnaissance/Close air support

WINGS: High-mounted variable geometry with elliptical tips

ENGINE: Twin turbofans mounted in fuselage, large rectangular intakes mounted in each side of the fuselage

FUSELAGE: Cigar-shaped with pointed nose

TAIL: Vertical stabilizer is swept with angular fairing; small air intakes mounted in the base of the vertical stabilizer; ECM pod high-mounted on vertical stabilizer; horizontal stabilizer is swept and mid-mounted on fuselage

ARMAMENT

PRIMARY: Air-air missiles, general purpose bombs

SECONDARY: Air-surface missiles; smart bombs, cluster bombs, fire bombs; rocket launchers

PERFORMANCE

COMBAT RADIUS: 347 nm

MAX SPEED: 800 kn (1,480 km/h)





AN-22 COCK

MISSION: Long-range heavy turboprop transport

WINGS: High-mounted, tapered-tapered with elliptical tips

ENGINE: Four turboprops mounted under wing

FUSELAGE: Cigar-shaped with rounded nose; radome under nose; landing gear pods on lower sides of fuselage; rear fuselage is upswept

TAIL: Twin vertical stabilizers are tapered-tapered and are above and below vertical stabilizer outboard of mid-span; bullet fairings on upper vertical stabilizer tips; horizontal stabilizer is tapered-tapered and high-mounted on fuselage

PERFORMANCE

RANGE: 5,905 nm (10,950 km)

MAX LEVEL SPEED: 399 kn (740 km/h)

SFOR



AN-24 COKE

MISSION: Short-range transport

WINGS: High mounted, tapered-tapered with elliptical tips

ENGINE: Two turboprops mounted under wing

FUSELAGE: Cigar-shaped with rounded nose; rear fuselage is upswept

TAIL: Vertical stabilizer is tapered-straight with angular fairing; horizontal stabilizer is swept and high-mounted on fuselage

PERFORMANCE

MAX RANGE: 1,618 nm (3,000 km)

CRUISING SPEED: 243 kn (450 km/h) at 23,000 ft

SERVICE CEILING: 29,525 ft (9,000 m)





AN-32 CLINE

MISSION: Short/medium range transport

WINGS: High-mounted, tapered-tapered with elliptical tips

ENGINE: Two turboprops located above wing, nacelles extend from wing leading edge; engine pods extend beyond wing trailing edge

FUSELAGE: Cigar-shaped with rounded nose; rear of fuselage is upswept; two large ventral fins are located on rear of fuselage

TAIL: Vertical is tapered-straight with angular fairing; horizontal stabilizer is swept and high-mounted on fuselage

PERFORMANCE

RANGE: 1,080 nm (2,000 km)

MAX SPEED: 286 kn (530 km/h)

SERVICE CEILING: 30,840 ft (9,400 m)



AN-124 CONDOR

MISSION: Long-range heavy-lift freight transport

WINGS: High-mounted, swept with elliptical tips

ENGINE: Four turbofans mounted on pylons under wings

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer swept; horizontal stabilizer is swept, mid-mounted on fuselage

PERFORMANCE

RANGE: 8,900 nm (16,500 km)

MAX SPEED: 467 kn (865 km/h)





BOEING 747

MISSION: Heavy transport

WINGS: Swept, low-mounted with squared tips

ENGINE: Four turbofans mounted on pylons under wings; nacelles extend well beyond wing's leading edge

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer swept; horizontal stabilizer is swept, mid-mounted on fuselage

PERFORMANCE

COMBAT RADIUS: 4,900 nm (9,075 km)

MAX SPEED: 610 mph (981 km/h)

CRUISE CEILING: 45,000 ft (13,715 m)





C-2A GREYHOUND

MISSION: Transport/Utility

WINGS: Tapered-tapered, high mounted with elliptical tips

ENGINE: Twin-turboprops mounted under wing; nacelles extend beyond wing's leading edge

FUSELAGE: Cigar-shaped with rounded nose; rear fuselage is upswept

TAIL: Four vertical stabilizers are tapered-tapered; two are mounted on ends of horizontal stabilizer, and two are mounted on top of the horizontal stabilizer; horizontal stabilizer is tapered-straight and high mounted on fuselage

PERFORMANCE

RANGE: 1,040 nm (1,930 km)

MAX LEVEL SPEED: 310 kn (574 km/h)

SERVICE CEILING: 33,500 ft (10,210 m)





C-5 GALAXY

MISSION: Heavy logistics transport

WINGS: High-mounted, swept with elliptical tips

ENGINE: Four turbofans, mounted on pylons under each wing

FUSELAGE: Cigar-shaped with rounded nose; rear of fuselage is upswept

TAIL: Vertical stabilizer is swept with curved fairing; horizontal stabilizer is swept and mounted atop vertical stabilizer forming a T-tail

PERFORMANCE

RANGE: 2,982 nm (5,526 km)

MAX SPEED: 496 kn (919 km/h) at 25,000 ft

SERVICE CEILING: 35,750 ft (10,895 m)





DC-9/C-9A

MISSION: Medium-range transport/Medical transport

WINGS: Low-mounted, swept with elliptical tips

ENGINE: Two turbofans mounted rear on the fuselage

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer is swept with curved fairing; horizontal stabilizer is swept and mounted atop vertical stabilizer forming a T-tail

PERFORMANCE

MAX RANGE: 1,160 nm (2,148 km) at 30,000 ft

MAX CRUISING SPEED: 490 kn (907 km/h) at 25,000 ft





C-12 HURON

MISSION: Light transport

WINGS: Tapered-tapered, low-mounted, elliptical tips; straight inboard leading and trailing edges

ENGINE: Two turboprops mounted on wings; nacelles extend well beyond wing's leading edge

FUSELAGE: Cigar-shaped with pointed nose

TAIL: Vertical stabilizer is swept with an angular fairing; horizontal stabilizer is swept and mounted atop vertical stabilizer forming a T-tail

PERFORMANCE

MAX RANGE: 1,974 nm (3,658 km) at 35,000 ft

MAX SPEED: 365 mph (587 km/h)

SERVICE CEILING: 25,855 ft (7,882 m)





C-20 GULFSTREAM

MISSION: Medium-range transport

WINGS: Low-mounted, swept, winglets

ENGINE: Two turbofans rear-mounted on fuselage; engine intakes overlap wing trailing edge

FUSELAGE: Cigar-shaped with ogive nose

TAIL: Vertical stabilizer is swept, with curved fairing; horizontal stabilizer swept, and mounted atop vertical stabilizer forming a T-tail

PERFORMANCE

MAX RANGE: 4,220 nm (7,820 km)

MAX SPEED: Mach 0.88 (629 km/h)

SERVICE CEILING: 45,000 ft (13,715 m)





C-23 SHERPA

MISSION: Transport

WINGS: High-mounted, straight-straight with elliptical tips

ENGINE: Two turboprops mounted under wing

FUSELAGE: Rectangular-shaped with pointed nose

TAIL: Two straight-straight vertical stabilizers; horizontal stabilizer is straight-straight and low-mounted between two vertical stabilizers

PERFORMANCE

MAX RANGE: 669 nm (1,239 km)

MAX CRUISING SPEED: 190 kn (352 km/h) with 21,000 lb at 10,000 ft

SERVICE CEILING: 12,900 ft (3,930 m)





C-130 HERCULES

MISSION: Transport

WINGS: Straight-tapered, high-mounted, elliptical tips; inboard trailing edges are straight

ENGINE: Four turboprops mounted under wing; nacelles extend beyond wings leading edge

FUSELAGE: Cigar-shaped with rounded nose; rear of fuselage is upswept; fuselage gear pods extend forward of wings leading edge

TAIL: Vertical stabilizer, tapered-tapered with curved fairing; horizontal stabilizer is tapered-tapered and high-mounted on fuselage

PERFORMANCE

COMBAT RADIUS: 4,250 nm (7,876 km) with max fuel, external tanks

MAX SPEED: 325 kn (602 km/h)

SERVICE CEILING: 33,000 ft (10,060 m)





C-141 STARLIFTER

MISSION: Strategic transport

WINGS: High-mounted, swept with elliptical tips

ENGINE: Four turbofans, mounted on pylons under each wing

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer is swept with curved fairing; horizontal stabilizer is swept and mounted atop vertical stabilizer forming a T-tail

PERFORMANCE

RANGE: 2,550 nm (4,725 km)

MAX SPEED: 492 kn (910 km/h)

SERVICE CEILING: 41,600 ft (12,680 m)

SFOR



CASA-212

MISSION: Twin-turboprop STOL utility transport

WINGS: High-mounted, tapered-tapered with squared tips

ENGINE: Two turboprops mounted in wing

FUSELAGE: Cigar-shaped with rounded nose; rear of fuselage is upswept

TAIL: Vertical stabilizer is tapered-tapered with large angular fairing; horizontal stabilizer is tapered-tapered and mid-mounted

ARMAMENT

PRIMARY: Machine-gun pods or TOW rocket launchers

PERFORMANCE

MAX RANGE: 220 nm (408 km)

MAX SPEED: 197 kn (365 km)

SERVICE CEILING: 28,000 ft (8,535 m)

SFOR



CN-235

MISSION: Anti-submarine warfare/Commuter and utility transport

WINGS: High-mounted, tapered-tapered

ENGINE: Two turboprops mounted in wings; nacelles extend beyond wing's leading edge

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Tall vertical stabilizer is swept with angled fairing; horizontal stabilizer is tapered-tapered, high-mounted on fuselage

ARMAMENT

PRIMARY: Torpedoes or missiles

SECONDARY: Anti-submarine warfare missiles; AM.39 Exocet anti-ship missile

PERFORMANCE

MAX RANGE: 2,110 nm (3,910 km) at 18,000ft

MAX SPEED: 240 kn (445 km/h) at sea level

SERVICE CEILING: 26,600 ft (8,110 m)





E-2C HAWKEYE

MISSION: Airborne early warning

WINGS: Tapered-tapered, high-mounted with elliptical tips

ENGINE: Two turboprops under wing; engines extend beyond wing's leading edge

FUSELAGE: Cigar-shaped with rounded nose; large circular radome above fuselage

TAIL: Four vertical stabilizers are tapered-straight, mounted on horizontal stabilizer; outer vertical stabilizers extend below horizontal stabilizer; horizontal stabilizer is tapered-straight and high-mounted on the fuselage

PERFORMANCE

FERRY RANGE: 1,654 nm (3,065 km)

MAX LEVEL SPEED: > 320 kn (593 km/h)

SERVICE CEILING: 31,700 ft (9,660 m)

SFOR



E-3 SENTRY

MISSION: Airborne early warning

WINGS: Swept, low-mounted, with a positive dihedral, elliptical wing tips

ENGINE: Four turboprops mounted on pylons underwing; nacelles extend well beyond wing's leading edge.

FUSELAGE: Cigar-shaped with a rounded nose; large disc-shaped radome mounted on two large pylons over rear of fuselage

TAIL: Vertical stabilizer is swept with small curved fairing; horizontal stabilizer is swept and mid-mounted on fuselage

PERFORMANCE

MAX ENDURANCE: 870 nm (1,610 km) (6 hours from base)

MAX LEVEL SPEED: 460 kn (853 km/h)

SERVICE CEILING: > 29,000 ft (8,850 m)





E-8 JSTARS

MISSION: Surveillance/Target direction

WINGS: Swept, low-mounted; straight inboard trailing edges; pylons on wing tips

ENGINE: Four turbojets mounted on pylons under wing; nacelles extend well forward of wings leading edge

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer is swept with curved fairing; horizontal stabilizer is swept and mid-mounted on fuselage

PERFORMANCE

MAX RANGE: 6,493 nm (range of Boeing 707)

MAX SPEED: Mach 0.9

SERVICE CEILING: 39,000 ft (11,885 m)





EA-6B PROWLER

MISSION: Electronic combat

WINGS: Swept, mid-mounted with elliptical tips

ENGINE: Two turbojets mounted in fuselage

FUSELAGE: Lobe-shaped with rounded nose; usually will be seen with hook shaped refueling probe; rounded air intakes below cockpit

TAIL: Vertical stabilizer is tapered-tapered with large radome at top; horizontal stabilizer is swept and mid-mounted on fuselage

ARMAMENT

PRIMARY: Anti-radiation missiles

PERFORMANCE

FERRY RANGE: 1,756 nm

MAX SPEED: 710 kn

SERVICE CEILING: 41,200 ft (12,550 m)





EF-111 RAVEN

MISSION: ECM tactical jamming

WINGS: High-mounted, variable geometry with elliptical tips

ENGINE: Two turbofans located under wing root

FUSELAGE: Cigar-shaped with a pointed nose; chine fairing extends from canopy to wing leading edge

TAIL: Vertical stabilizer is swept with angular fairing; horizontal stabilizer is swept and high-mounted on fuselage

PERFORMANCE

COMBAT RADIUS: 807 nm (1,495 km)

MAX LEVEL SPEED: 1,230 kn (2,279 km/h)

SERVICE CEILING: 45,000 ft (13,715 m)





F-27 FRIENDSHIP

MISSION: Transport / Maritime patrol

WINGS: High-mounted, tapered-tapered with elliptical tips

ENGINE: Two turboprops mounted under wing; engines extend well beyond leading and trailing edges

FUSELAGE: Cigar-shaped with rounded nose; dorsal spine extends from middle of fuselage to vertical stabilizer

TAIL: Vertical stabilizer is tapered-tapered with an enlarged angular fairing; horizontal stabilizer is tapered-tapered, high-mounted on fuselage

PERFORMANCE

COMBAT RADIUS: 1,200 nm

MAX SPEED: 259 kn (480 km/h)

SERVICE CEILING: 30,000 ft (9,145 m)





G-222

MISSION: Medium-range transport

WINGS: High-mounted, tapered-tapered, elliptical tips

ENGINE: Two turboprops mounted under wings

FUSELAGE: Cigar-shaped with round nose

TAIL: Vertical stabilizer is tapered-straight with curved fairing; horizontal stabilizer is tapered-straight and high-mounted on fuselage

PERFORMANCE

COMBAT RADIUS: 740 nm (1,371 km)

MAX SPEED: 291 kn (540 km/h) at 15,000 ft

SERVICE CEILING: 25,000 ft (7,620 m)





IL-18/20 COOT/COOT-A

MISSION: Transport/ELINT reconnaissance

WINGS: Low-mounted, tapered-tapered with elliptical tips

ENGINE: Four turboprops above wing

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer is tapered-tapered with curved fairing; horizontal stabilizer is tapered-tapered and mid-mounted on fuselage

PERFORMANCE

COMBAT RADIUS: 3,508 nm (6,500 km)

MAX SPEED: 364 kn (675 km/h)

SERVICE CEILING: 32,800 ft (10,000 m)





IL-76 CANDID

MISSION: Heavy transport

WINGS: High-mounted, swept with elliptical tips

ENGINE: Four turbofans, mounted on pylons under wings

FUSELAGE: Cigar-shaped with radome under round nose; large fuselage gear pods extend beyond wing's trailing edge

TAIL: Vertical stabilizer is swept with curved fairing and top-mounted electronics pod; horizontal stabilizer is swept and mounted atop vertical stabilizer forming a T-tail

PERFORMANCE

RANGE: 3,617 nm (6,700 km)

MAX SPEED: 459 kn (850 km/h)





KA-6 PROVIDER

MISSION: Tanker

WINGS: Swept, mid-mounted with elliptical tips

ENGINE: Two turbojets mounted in fuselage, rounded air intakes below cockpit

FUSELAGE: Lobe-shaped with rounded nose; usually will be seen with hook-shaped refueling probe

TAIL: Vertical stabilizer is tapered-tapered with stepped fairing; horizontal stabilizer is swept and mid-mounted on fuselage

PERFORMANCE

MAX RANGE: 2,818 nm (4,410 km)

MAX LEVEL SPEED: 560 kn (1,037 km/h)

SERVICE CEILING: 42,400 ft (12,925 m)





KC-10

MISSION: Transport/Tanker

WINGS: Low-mounted, swept with elliptical tips

ENGINE: Three turbofans, one under each wing, and one in base of vertical stabilizer

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer is swept with curved fairing; horizontal stabilizer is swept and mid-mounted on fuselage

PERFORMANCE

RANGE: 2,680 nm (4,966 km)

MAX SPEED: 520 kn (964 km)

SERVICE CEILING: 42,000 ft (12,800 m)





KC/RC-135

MISSION: Aerial refueling/Reconnaissance

WINGS: Swept, low-mounted with elliptical tips

ENGINE: Four turbojets suspended on pylons under wing; nacelles extend well beyond wing's leading edge

FUSELAGE: Cigar-shaped with rounded nose; KC-135 has refueling boom along the upswept rear of fuselage, extending beyond the tail

TAIL: Vertical stabilizer, swept with curved leading edge; horizontal stabilizer is swept, mid-mounted on fuselage

PERFORMANCE

MAX RANGE: 2,128 mi with 120,000 lbs of transfer fuel

MAX SPEED: 610 mph at 30,000 ft

SERVICE CEILING: 50,000 ft (15,244 m)

SFOR



L-410

MISSION: Regional airliner/General purpose light transport

WINGS: High-mounted, tapered-tapered, positive dihedral, elliptical wing tips

ENGINE: Two turbo props mounted in wings; nacelles extend beyond wing leading edge

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer, swept with angular fairing; horizontal stabilizer, tapered-tapered low mounted on vertical stabilizer

PERFORMANCE

RANGE: 744 nm (1,380 km)

MAX SPEED: 193 mph (311 km/h)

SERVICE CEILING: 6,320 m (20,730 ft)





NIMROD MR-2

MISSION: Surveillance/ASW

WINGS: Low-mounted, swept with elliptical tips; external fuel tanks in wing extend beyond wings leading edge

ENGINE: Four turbojets mounted in wing, exhaust extends beyond wings trailing edge

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer, tapered-tapered with large angular fairing; top-mounted ECM pod; horizontal stabilizer, tapered-tapered, high-mounted on fuselage; tail boom extends from rear of fuselage.

ARMAMENT

PRIMARY: Up to nine torpedoes

SECONDARY: Two rotary sonobuoy launchers

PERFORMANCE

MAX RANGE: 4,500 nm (8,340 km)

MAX SPEED: 500 kn (926 km/h)

SERVICE CEILING: 42,000 ft (12,800 m)





P-3 ORION

MISSION: ASW/Maritime reconnaissance

WINGS: Straight-tapered, low-mounted with squared tips, and positive dihedral

ENGINE: Four turboprops mounted in wings

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer, tapered-tapered with curved fairing; horizontal stabilizer, tapered-tapered and high-mounted on fuselage

ARMAMENT

PRIMARY: 1,000 and 2,000 lb mines, torpedoes, depth charges

PERFORMANCE

COMBAT RADIUS: 1,346 nm (2,494 km)

MAX SPEED: 411 kn (761 km/h) at 15,000 ft

SERVICE CEILING: 28,300 ft (8,625 m)

SFOR



TRANSALL C-160

MISSION: Transport

WINGS: High-mounted, tapered-tapered, elliptical tips

ENGINE: Two turboprops mounted under wings

FUSELAGE: Cigar-shaped with rounded nose, rear of fuselage is upswept

TAIL: Vertical stabilizer, tapered-straight with angular fairing; horizontal stabilizer, tapered-tapered, high-mounted on fuselage

PERFORMANCE

COMBAT RADIUS: 2,750 nm (5,095 km)

MAX SPEED: 277 kn (513 km/h)

SERVICE CEILING: 27,000 ft (8,230 m)





L1011/TRISTAR K.MK.1

MISSION: Medium-range transport

WINGS: Low-mounted, swept with elliptical tips; ten flap track fairings under wing

ENGINE: Three turbofans, two mounted on pylons under wing, one in tailcone with air intake mounted in base of vertical stabilizer

FUSELAGE: Cigar-shaped with rounded nose

TAIL: Vertical stabilizer, swept with curved fairing; horizontal stabilizer, swept and mid-mounted on fuselage

PERFORMANCE

RANGE: 5,297 nm (9,815 km)

MAX SPEED: Mach 0.84

SERVICE CEILING: 5,297 nm (9,815 km)





U-2/TR-1

MISSION: High-altitude reconnaissance and research

WINGS: Tapered-tapered, mid-mounted with squared tips; wing tips have small landing skids; may have large electronics pods mounted under wing, extending beyond wing's leading and trailing edges

ENGINE: One turbojet mounted in fuselage, oval air intakes mounted on fuselage forward of wing root

FUSELAGE: Cigar-shaped with rounded nose; TR-1 has an extended nose

TAIL: Vertical stabilizer, tapered-straight with curved fairing; horizontal stabilizer, tapered-tapered, low-mounted on vertical stabilizer

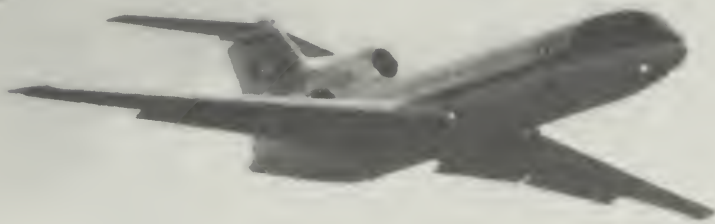
PERFORMANCE

MAX RANGE: 2,605 nm (4,830 km)

MAX SPEED: 373 kn (692 km/h) at 70,000 ft

SERVICE CEILING: 90,000 ft (27,430 m)





YAK-42 CLOBBER

MISSION: Short/medium range passenger transport

WINGS: Low-mounted, swept with elliptical tips

ENGINE: Three turboprops two mounted to rear on fuselage, one in tailcone with air intake at base of vertical stabilizer

FUSELAGE: Cigar-shaped with rounded nose

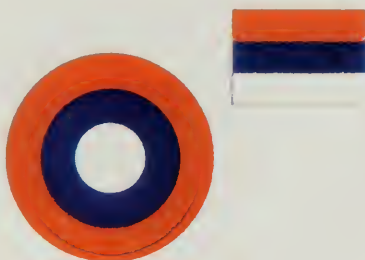
TAIL: Vertical stabilizer, swept; horizontal stabilizer, swept and mounted atop vertical stabilizer forming a T-tail

PERFORMANCE

RANGE: 2,105 nm (3,900 km)

MAX SPEED: 437 kn (810 km/h) at 25,000 ft (7,620 m)





Bosnia AF

Bosnian Serb AF



Croatian AF

Yugoslav AF



SFOR

Austria AF



SFOR

Belgium AF



SFOR

Canada AF



SFOR

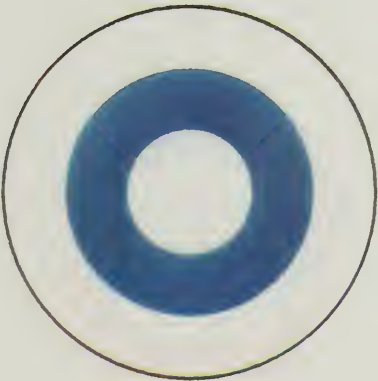
Canada LV



Czech AF



Denmark AF



Finland AF



France AF



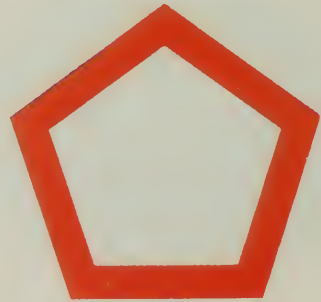
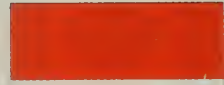
Germany AF



Greece AF



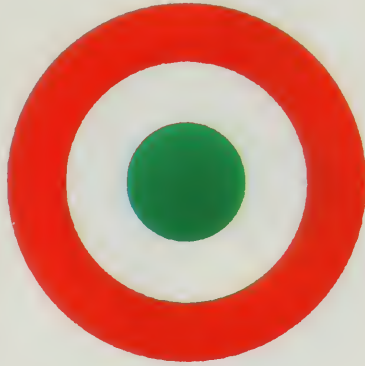
Hungary AF



Indonesia AF



Indonesia LV



Italy AF



Italy



Lithuania AF



SFOR

Malaysia AF



SFOR

Malaysia LV



SFOR

NATO AEW1



SFOR

NATO AEW2



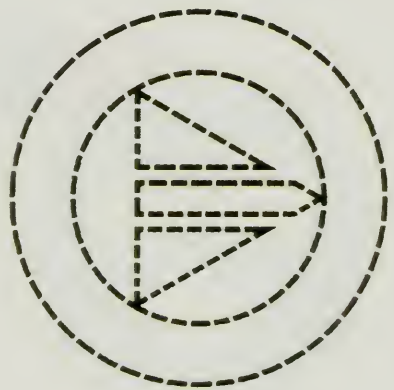
NATO AEW F3



Netherlands AF



Norway AF

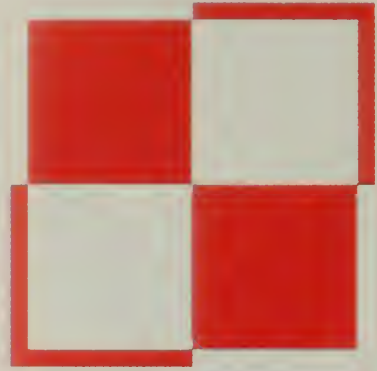


Norway LV



SFOR

Pakistan AF



SFOR

Poland AF



SFOR

Portugal AF



SFOR

Russia AF



Slovak AF



Slovenia AF



Spain AF



Sweden AF



SFOR

Turkey AF



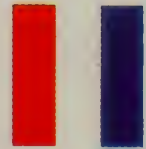
SFOR

Ukraine AF1



SFOR

Ukraine AF2



SFOR

United Kingdom AF



United Kingdom LV



United States AF



United States LV1



United States LV2



United States LV3



United States LV4

SECTION 19 FWF AND SFOR MISCELLANEOUS EQUIPMENT



Artillery Command/Reconnaissance Vehicle 1V12-Series

Standard command vehicles for tracked SP cannon units. The 1V12-series ACRV was purchased by the JNA for use with its 2S1 battalions. Although infrequently observed, some of these vehicles were transferred to the VRS with the howitzers. The vehicles are all similar in layout with only minor differences based upon mission: observation or fire-direction.





Alcatel 101

Shown above is a typical deployed node of the Alcatel 101 integrated battlefield area communications system. This particular node uses the TFH-701 digital multichannel microwave radio. The mesh parabolic-reflector antenna shown operates from 1350 to 1850 MHz. The TFH-701 can also operate from 610 to 960 (mesh parabolic reflector) and 4400 to 5000 (solid parabolic reflector) MHz.



Artillery Command/Reconnaissance Vehicle 1V119

This is the standard command vehicle for tracked, airborne SP cannon units. The 1V119 (and almost identical 1V118) ACRVs are BMD-based command vehicles associated with the 2S9 battalions. The turrets house observation optics, a periscopic aiming circle, and an internally mounted ground surveillance radar that can be mounted above the turret for surveillance during periods of limited visibility.





Artillery Forward Observer Vehicle AMX-10 VOA

This is the standard FO vehicle for SP cannon units. The AMX-10 VOA is the forward observer variant of the AMX-10 tracked APC. Variants of the system (achieved by slight changes in the turret) include the AMX-10 SAO (also for forward observers) and the AMX-10 PC (command posts/fire direction centers).





Multi-Role System (MRS)

Shown above is a typical deployed trunk-node of the MRS. This particular deployment is using the CTM-218 digital multichannel radio-relay system that operates from 1350 to 1850 MHz using a corner-reflector array. MRS can also use radio-relay equipment that operates from 225 to 400 (corner reflector), 610 to 960 (planar reflector), and 4400 to 5000 (parabolic reflector) MHz. MRS was developed as a more modern derivative of Parmigan, the UK Army's integrated voice and data battlefield communications system.

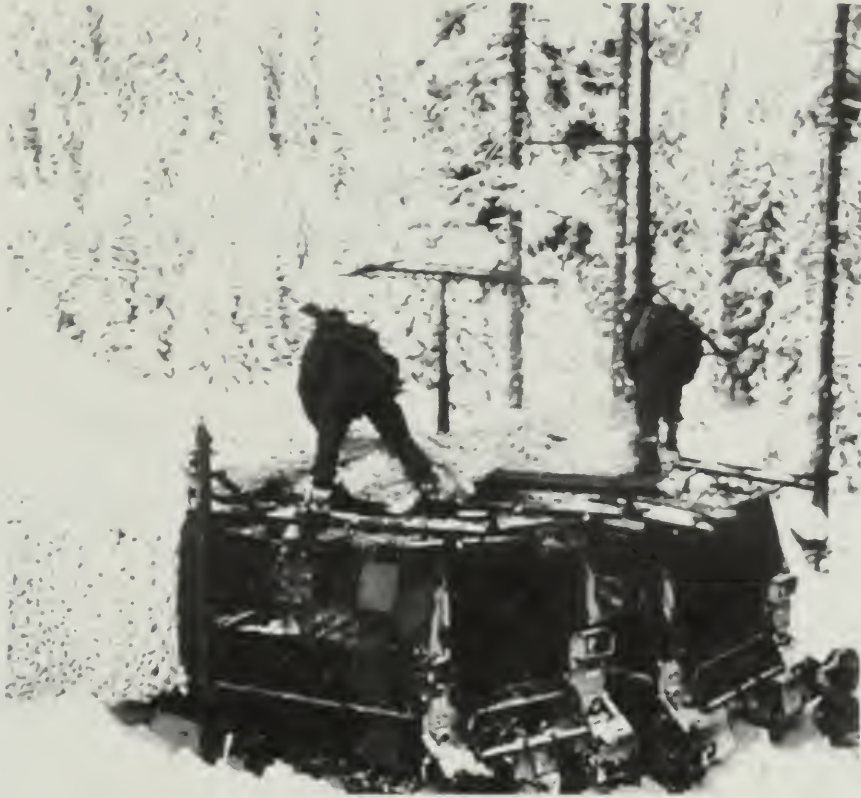




Automatic Transmission Integrated Network (RITA)

Shown above is a typical deployed multichannel radio-relay station for RITA. One corner-reflector antenna shown operates from 225 to 400 MHz and the other from 400 to 960 MHz. RITA can also use radio-relay equipment that operates from 1350 to 2700 MHz using a parabolic-reflector antenna. RITA is currently fielded within the French Army and within the French Rapid Deployment Force.





Tactical Area Digital Communications System (TADKOM)

Shown above is a typical deployed communications node for TADKOM. It is a digital tactical communications system providing transmission and automatic switching of voice and data for command and control of the Norwegian Army. TADKOM may be deployed on trucks or tracked vehicles as shown here. The log-periodic antenna shown operates from 225 to 400 MHz. TADKOM can also use radio-relay equipment from 610 to 960 and 1700 to 1900 MHz using corner-reflector antennas.



APPENDIX A

FWF AND SFOR EQUIPMENT SUMMARY

MINES

System	Users (see pages 17 &18 for country codes)	Page No.
PMA-1, PMD-1	ARSK, BiH, HV, HVO, VJ, VRS	10-1
PMA-1A	ARSK, BiH, HV, HVO, VJ, VRS	10-2
PMA-2	ARSK, BiH, HV, HVO, VJ, VRS	10-3
PMA-3	ARSK, BiH, HV, HVO, VJ, VRS	10-4
TM-100	ARSK, BiH, HV, HVO, VJ, VRS	10-5
TM-200, TM-500	ARSK, BiH, HV, HVO, VJ, VRS	10-6
MT-4	ARSK, BiH, HV, HVO, VJ, VRS	10-7
PMR-1, PMR-2	ARSK, BiH, HV, HVO, VJ, VRS	10-8
PMR-2A, PMR-2AS	ARSK, BiH, HV, HVO, VJ, VRS	10-9
PMR-3	ARSK, BiH, HV, HVO, VJ, VRS	10-10
PPMP-2	ARSK, BiH, HV, HVO, VJ, VRS	10-11
PROM-1	ARSK, BiH, HV, HVO, VJ, VRS	10-12
PROM-2	ARSK, BiH, HV, HVO, VJ, VRS	10-13
PROM-3	ARSK, BiH, HV, HVO, VJ, VRS	10-14
PSM-1	ARSK, BiH, HV, HVO, VJ, VRS	10-15
MRUD	ARSK, BiH, HV, HVO, VJ, VRS	10-16
UDAR	VJ, VRS	10-17
PPMR	ARSK, BiH, HV, HVO, VJ, VRS	10-18
GORAZDE (AP)	BiH	10-19
MAT-76	ARSK, BiH, HV, HVO, VJ, VRS	10-20
TM-62	ARSK, BiH, HV, HVO, VJ, VRS	10-21

MINES (Continued)

System	Users (see pages 17 &18 for country codes)	Page No.
TMD-1,- 2, -2D	ARSK, BiH, HV, HVO, VJ, VRS	10-22
TMM-1	ARSK, BiH, HV, HVO, VJ, VRS	10-23
TMA-1, TMA-1A	ARSK, BiH, HV, HVO, VJ, VRS	10-24
TMA-2, TMA-2A	ARSK, BiH, HV, HVO, VJ, VRS	10-25
TMA-3	ARSK, BiH, HV, HVO, VJ, VRS	10-26
TMA-4	ARSK, BiH, HV, HVO, VJ, VRS	10-27
TMA-5, -5A	ARSK, BiH, HV, HVO, VJ, VRS	10-28
TMRP-6	ARSK, BiH, HV, HVO, VJ, VRS	10-29
MC-71	ARSK, BiH, HV, HVO, VJ, VRS	10-30
L.PZ.MI	ARSK, BiH, HV, HVO, VJ, VRS	10-31
GORAZDE (AT)	BiH	10-32
KB (Scatterable)	VJ, VRS	10-33

INFANTRY WEAPONS AND NIGHT VISION DEVICES

System	Users (see pages 17 &18 for country codes)	Page No.
INFANTRY WEAPONS		
M57	ARSK, BiH, HV, HVO, VJ, VRS	11-1
M80	ARSK, BiH, HV, HVO, VJ, VRS	11-2
RBR M80	ARSK, BiH, HV, HVO, VJ, VRS	11-3
ARMBRUST	ARSK, BiH, HV, HVO, VJ, VRS	11-4
RPG-22	ARSK, BiH, HV, HVO, VJ, VRS	11-5
RBR M79	ARSK, BiH, HV, HVO, VJ, VRS	11-6
M60/M60A	ARSK, BiH, HV, HVO, VJ, VRS	11-7
M79	ARSK, BiH, HV, HVO, VJ, VRS	11-8
M65	ARSK, BiH, HV, HVO, VJ, VRSJ	11-9
RBR HORNET	ARSK, BiH, HV, HVO, VJ, VRS	11-10
NIGHT VISION DEVICES		
Passive Individual Weapon Sight Model PN 5x80	ARSK, BiH, HV, HVO, VJ, VRS	11-11
Passive Binoculars Model PRD 4x80	ARSK, BiH, HV, HVO, VJ, VRS	11-12
Thermal Imaging System Model TS-M	ARSK, BiH, HV, HVO, VJ, VRS	11-13

ARMOR

System	Users (see pages 17 &18 for country codes)	Page No.
Tanks/HACV		
M84/M84A	ARSK, HV, HVO, VJ, VRS	13-1
T-54/55	ARSK, BiH, HV, HVO, VJ, VRS	13-2
T-34/85	ARSK, BiH, HV, HVO, VJ, VRS	13-3
M47	ARSK, BiH, VRS	13-4
DEGMAN	HV, HVO (poss)	13-5
T-72M/T-72M1	ARSK, VRS, HV, HVO, VJ, UV	13-11
CENTAURO	IT	13-19
AMX-30 B2	FR	13-21
LEOPARD 1A3	CA, DA	13-22
M1A1	US	13-23
CHALLENGER 2	UK	13-24
CHALLENGER 1	UK	13-25
CHIEFTAIN	UK	13-26
AMX-10RC	FR	13-27
ERC 90	FR	13-28
IFV & SCOUT/RECON		
BVP M80	ARSK, BiH, HV, HVO, VJ, VRS	13-6
BVPM80A	ARSK, BiH, HV, HVO, VJ, VRS	13-7
BRDM-2	VJ, RS	13-12
BMP-1/BVP-1	EZ	13-15
BMP-2/BVP-2	EZ, RS	13-16
OT-64	EZ	13-20
SCIMITAR	UK	13-29
M2	US	13-30
YPR 765/VCC-2	BE, IT, NL	13-31
K200	MY	13-32
WARRIOR	UK	13-34

ARMOR (Continued)

System	Users (see pages 17 &18 for country codes)	Page No.
VEC	SP	13-35
VBL	FR	13-36
LYNX	CA	13-37
APC		
BVP M60P	ARSK, BiH, HV, HVO, VJ, VRS	13-8
BOV-M	ARSK, HV, VJ, VRS	13-9
BIV	HV, HVO (poss)	13-10
BTR-60PB	HV, VJ, RS, UP	13-13
MT-LB	HV, VJ, FI, SW	13-14
BTR-80	BG, RS, TU	13-17
BTR-70	BG, PK, RS	13-18
VCC-1	IT	13-33
COUGAR	CA	13-38
BMR-600	SP	13-39
PBv 302	SW	13-40
Bv 206S	SW	13-41
SISU XA-180	FI, NO	13-42
BTR-D	RS	13-43
M113A1	CA, DA, IT, NO, BG, EG, PK, TU	13-44
M113A1 UPGRADE	CA, DA, IT, NO, BG, EG, PK	13-45
GRIZZLY	CA	13-46
SAXON	UK	13-47
FV-432	UK	13-48
AMX-10P	FR	13-49
FAHD	EG	13-50
CONDOR	MY	13-51
TYPE 6614	IT	13-52
VAB	FR	13-53

ANTIARMOR

System	Users	Page No.
(see pages 17 & 18 for country codes)		
WEAPONS		
T-12	ARSK, BiH, HV, HVO, VJ, VRS	14-1
ZIS-3	ARSK, BiH, HV, HVO, VJ, VRS	14-2
M36B2	ARSK, BiH, HV, HVO, VJ, VRS	14-3
BRDM-2 ATGM	ARSK, BiH, HV, HVO, VJ, VRS	14-4
BOV-1 ATGM	ARSK, BiH, HV, HVO, VJ, VRS	14-5
MISSILES		
SHTURM	HV	14-6
DRAGON	ARSK, VJ, VRS, EG, SP, SW	14-7
FAGOT	ARSK, HV, HVO, VJ, VRS, EG, FI, PL, RS, UP	14-8
GREEN ARROW	BiH, PK	14-9
KONKURS	ARSK, BiH, HV, HVO, VJ, VRS, EG, FI, PL, RS, UP	14-10
MALYUTKA	ARSK, BiH, HV, HVO, VJ, VRS, EG, FI, PL, RS, UP	14-11
MALYUTKA-P	ARSK, BiH, HV, HVO, VJ, VRS, FI, PL, RS, UP	14-12
MILAN 2	HV, HVO, BE, EG, FR, ID, IT, MY, PO, SP, TU, UK	14-13
RED ARROW-8A	BiH, PK	14-14
SPARTAN	UK	14-15
STRIKER	UK	14-16
BILL	SW	14-17
ERYX	CA, FR, MY, NO	14-18
HELLFIRE	EG, FR, SP	14-19
HOT 2	EG, FR, SP	14-20
ITOW	DA, EG, FI, IT, NL, PK, SW, TU, UK	14-21
KONKURS-M	EG, RS	14-22
KORNET	RS	14-23
METIS-M	RS	14-24
METIS	RS, UP	14-25

ANTIARMOR (Continued)

System	Users (see pages 17 & 18 for country codes)	Page No.
MILAN 3	FR	14-26
RED ARROW-73	BG	14-27
SWINGFIRE	BE, UK	14-28
TOW	CA, DA, EG, IT, NL, NO, PK, RO, SP, SW, TU, UK	14-29
TOW-2	BE, CA, DA, IT, NL, NO, PK, PO, SW, TU	14-30
TOW-2A	DA, EG, NL, NO, SW, TU	14-31

ARTILLERY

System	Users	Page No.
	(see pages 17 & 18 for country codes)	
MORTAR SYSTEMS		
M57	ARSK, BiH, HV, HVO, VJ, VRS	15-1
M70	ARSK, BiH, HV, HVO, VJ, VRS	15-2
M90	BiH, HV, HVO, VJ, VRS	15-3
M69A/M69B	ARSK, BiH, HV, HVO, VJ, VRS	15-4
M-1938	BiH, HVO, VRS	15-5
M-38/43	ARSK, BiH, HV, HVO, VJ, VRS	15-6
UB M52	ARSK, BiH, HV, HVO, VJ, VRS	15-7
M75	ARSK, BiH, HV, HVO, VJ, VRS	15-8
K-6	BiH	15-9
M74	ARSK, BiH, HV, HVO, VJ, VRS	15-10
M-160	VRS	15-11
L9A1	UK	15-41
Commando	PO	15-42
L16A1/M252	NO, UK, US	15-43
MO 81 LC	FR	15-44
Model 62	IT	15-45
M113 MC	IT	15-46
YPR Mortar	NL	15-47
BMR Mortar	SP	15-48
LAV-M Mortar	CA	15-49
2B14-1	RS	15-50
K200 Mortar	MY	15-51
MO 120 RT	DA, FR, NL, TU	15-52
CANNON SYSTEMS		
M48B-1	ARSK, BiH, HV, HVO, VJ, VRS	15-12
M56	ARSK, BiH, HV, HVO, VJ, VRS	15-13

ARTILLERY (Continued)

System	Users (see pages 17 & 18 for country codes)	Page No.
M-18 (series)	VRS, others possible	15-14
M-38	ARSK, BiH, HV, HVO, VJ, VRS	15-15
D-74	HVO	15-16
D-30J	ARSK, BiH, HV, HVO, VJ, VRS	15-17
2S1	ARSK, BiH, HV, HVO, VJ, VRS	15-18
M-46	ARSK, BiH, HV, HVO, VJ, VRS	15-19
M84	ARSK, HV, VJ, VRS	15-20
D-20	ARSK, BiH, HV, HVO, VJ, VRS	15-21
M-46/84	HV, VJ	15-22
M65	ARSK, BiH, HV, HVO, VJ, VRS	15-23
M59	ARSK, BiH, HV, HVO, VJ, VRS	15-24
M115	ARSK, BiH, HV, HVO, VRS	15-25
M1/M101	ARSK, BiH, HV, HVO, VJ, VRS, CA	15-40
L118	UK	15-53
2S9	RS	15-54
M109A3	US	15-55
M109L	IT	15-56
AU-F1	FR	15-57
AS-90	UK	15-58

ROCKET LAUNCHERS

M92A1	HV, HVO	15-26
M93A2	HV, HVO	15-27
Type 63	BiH, HVO	15-28
APR-40	HV, HVO, VRS	15-29
BM-21	HV, HVO (poss), VRS	15-30
M77	ARSK, BiH, HV, HVO, VJ, VRS	15-31
M63	ARSK, BiH, HV, HVO, VJ, VRS	15-32
M91-A3	HV, HVO	15-33
M71	ARSK, BiH, HV, HVO, VJ, VRS	15-34

ARTILLERY (Continued)

System	Users (see pages 17 & 18 for country codes)	Page No.
M87	BiH, HV, VJ, VRS	15-35
9P113	VJ, VRS	15-36
57-mm Improvised	VRS	15-37
<i>Krema-I</i>	VRS	15-38
<i>Krema-IV</i>	VRS	15-39
M270/MLRS	US	15-59

AIR DEFENSE

System	Users (see pages 17 and 18 for country codes)	Page No.
M55A	ARSK, BiH, HV, HVO, VJ, VRS	16-1
M75	ARSK, BiH, HV, HVO, VJ, VRS	16-2
BOV-3	ARSK, BiH, HV, HVO, VJ, VRS	16-3
M53/59	ARSK, BiH, HV, HVO, VJ, VRS	16-4
BOV-30/2	ARSK, BiH, HV, HVO, VJ, VRS	16-5
S-60	ARSK, BiH, HV, HVO, VJ, VRS	16-6
ZSU-57-2	ARSK, BiH, HV, HVO, VJ, VRS	16-7
ZGU-1	ARSK, BiH, HV, HVO, VJ, VRS	16-8
SA-2	ARSK, VJ, VRS	16-9
SA-3	VJ	16-9
SA-6	ARSK, VJ, VRS	16-10; 16-11
SA-7	ARSK, BiH, HV, HVO, VJ, VRS	16-12
SA-9	ARSK, HV, HVO (poss), VJ, VRS	16-13
SA-13	ARSK, HV, VJ, VRS, others possible	16-14
SA-14	ARSK, BiH, HV, HVO, VJ, VRS	16-15
SA-16	ARSK, VJ, VRS, others possible	16-15
SA-18	VRS, RS	16-16
STINGER	US	16-17
MISTRAL	FR	16-18
53T2	FR	16-19
AMX-13 DCA	FR	16-20
SIDAM 25	IT	16-21
GEPARD	NL	16-22
MK 20	NO	16-23
GDF-003	CA, IT, SP, TU, UK	16-24
ZU-23	FI, RS	16-25
M42	TU	16-26

HELICOPTERS

System	Users (see pages 17 & 18 for country codes)	Page No.
SA-318 ALOUETTE II	VJ, NL	17-1
SA-341/342 GAZELLE	ARSK, VJ, VRS, FR	17-2
Mi-8 HIP C	BiH, HV, VJ, FI, PL, RS, UP	17-3
Mi-17 HIP H	HV, PL, RS, UP	17-4
Mi-24 HIND D	HV, PL, RS, UP	17-5
Mi-6 HOOK	RS	17-6
SA-330 PUMA	FR, SP, UK	17-7
Mi-26 HALO	RS	17-8
AS-332 SUPER PUMA	FR, SP	17-9
SA-319B ALOUETTE III	FR, SP	17-10
LYNX MK.3	UK	17-11
LYNX MK.7	UK	17-12
BO-105	NL, SP, SW	17-13
AS-565MA PANTHER	FR	17-14
A-109 HIRUNDO	BE, IT, SI	17-15
A-129 MONGOOSE	IT	17-16
SA-321J SUPER FRELON	FR	17-17
AS-355/555	FR	17-18
Bell 412/AB 412	CA, IT, NO, SI, SW	17-19
UH-1N/Bell 212	IT, TU, US	17-20
UH-1H/Bell 205	CA, GM, IT, SP, TU, US	17-21
AH-1E/F/P/S/Bell 209	TU, US	17-22
AH-64A APACHE	US	17-23
AH-6/OH-6/MH-6/MD 500/530	IT, US	17-24
OH-58/Bell 406	CA, SP, US	17-25
CH-47C/D	CA, IT, NL, SP, UK, US	17-26
CH-53	GM, US	17-27
UH-60/SH-60/S-70	SP, TU, US	17-28
Mi-2 HOPLITE	PL, RS, UP	17-29

FIXED-WING AIRCRAFT

System	Users (see pages 17 & 18 for country codes)	Page No.
AN-12 CUB	VJ, VRS	18-1
G.2 GALEB/J1 JASTREB	BiH, HV, VJ, VRS	18-2
G-4 SUPER GALEB	BiH, HV, VJ, VRS	18-3
PZL-104 WILGA	BiH	18-4
SOKO P-2 KRAGUJ	BiH, HV, VRS	18-5
UTVA 60/66	BiH, VJ, VRS, SI	18-6
UTVA-75	BiH, HV, VJ, SI	18-7
MiG-21 FISHBED	HV, VJ	18-8
MiG-23/27 FLOGGER	VJ	18-9
MiG-29 FULCRUM	VJ	18-10
ORAO 2 J-22M	HV, VJ, VRS	18-11
AN-2 COLT	HV, VJ, VRS	18-12
DORNIER DO-27	VJ	18-13
LEARJET	VJ, SI	18-14
AN-26 CURL	HV, VJ, EZ, HU, LH, PK, PL	18-15
BOEING 707	VJ, CA, FR, IT, PK, PO, SP	18-16
FALCON 50	VJ, FR, US	18-17
LI-2 CAB (DC-3/C-47)	HVO, GR, IT, TU	18-18
YAK-40 CODLING	HV, VJ, EZ, FR, IT, LH, PL, RS	18-19
A-10 THUNDERBOLT	US	18-20
AMX	IT	18-21
AV-8B HARRIER	SP, UK, US	18-22
BERGUET ATLANTIQUE	GM, IT	18-23
ETENDARD IV	FR	18-24
F-14 TOMCAT	US	18-25
F-15 EAGLE	US	18-26
F-16 FIGHTING FALCON	NL, TU, US	18-27
F/A-18 HORNET	SP, US	18-28

FIXED-WING AIRCRAFT (Continued)

System	Users (see pages 17 & 18 for country codes)	Page No.
JAGUAR	FR, UK	18-29
MIRAGE 2000	FR	18-30
MIRAGE F-1	FR	18-31
S-3 VIKING	US	18-32
TORNADO	GM, IT, UK	18-33
AN-22 COCK	RS	18-34
AN-24 COKE	EZ, HU, RS, UP	18-35
AN-32 CLINE	RS	18-36
AN-124 CONDOR	RS	18-37
BOEING 747	US	18-38
C-2A GREYHOUND	US	18-39
C-5 GALAXY	US	18-40
DC-9/C-9A	AU, CA, DA, FI, IT, SP, SW, TU, US	18-41
C-12 HURON	EG, EI, FR, GR, US	18-42
C-20 GULFSTREAM	DA, GR, IT, US	18-43
C-23 SHERPA	CA, GR, US	18-44
C-23 HERCULES	BE, DA, GR, ID, MY, NL, NO, PK, PO, SP, SW, TU, US	18-45
C-141 STARLIFTER	US	18-46
CASA-212	ID, PO, SP, SW, TU, US	18-47
CN-235	FR, SP, TU	18-48
E-2C HAWKEYE	US	18-49
E-3 SENTRY	FR, NATO, UK, US	18-50
E-8 JSTARS	US	18-51
EA-6B PROWLER	US	18-52
EF-111 RAVEN	US	18-53
F-27 FRIENDSHIP	NL	18-54
G-222	IT	18-55
IL-18/20 COOT/COOT-A	EZ, PL, RS, UP	18-56

FIXED-WING AIRCRAFT (Continued)

System	Users	Page No.
	(see pages 17 & 18 for country codes)	
IL-76 CANDID	RS, UP	18-57
KA-6 PROVIDER	US	18-58
KC-10	US	18-59
KC/RC-135	US	18-60
L-410	SI	18-61
NIMROD MR-2	UK	18-62
P-3 ORION	NL, US	18-63
TRANSALL C-160	FR, GM, TU	18-64
L1011/TRISTAR K.MK.1	CA, PO, UK, US	18-65
U-2/TR-1	US	18-66
YAK-42 CLOBBER	LH, RS	18-67

MISCELLANEOUS EQUIPMENT

System	Users (See pages 17 & 18 for country codes)	Page No.
1V12-Series	BiH, HVO, VJ, VRS	19-1
Alcatel 101	FR	19-2
1V119	RS	19-3
AMX-10 VOA	FR	19-4
MRS	UK	19-5
RITA	FR	19-6
TADKOM	NO	19-7

COUNTRY CODES

AU	AUSTRIA
BE	BELGIUM
BG	BANGLADESH
CA	CANADA
DA	DENMARK
EG	EGYPT
EI	IRELAND
EZ	CZECH REPUBLIC
FI	FINLAND
FR	FRANCE
GM	GERMANY
GR	GREECE
HU	HUNGARY
ID	INDONESIA
IT	ITALY
LH	LITHUANIA
LO	SLOVAK REPUBLIC
ML	MALI
MY	MALAYSIA
NL	NETHERLANDS
NO	NORWAY
PK	PAKISTAN
PL	POLAND
PO	PORTUGAL
RS	RUSSIA
SI	SLOVENIA
SP	SPAIN
SW	SWEDEN
TU	TURKEY
UK	UNITED KINGDOM
UP	UKRAINE
US	UNITED STATES

COUNTRY CODES (Continued)

ARSK	KRAJINA SERB ARMY
BiH	BOSNIAN ARMY
HV	CROATIAN ARMY
HVO	CROATIAN DEFENSE COUNCIL
VJ	YUGOSLAV ARMY
VRS	BOSNIAN SERB ARMY



